

Personality and Motivation are determinants of
seating preferences by students in lecture halls.

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This thesis dedicated to my granddaughter Zara Holly Casey and my late father Patrick Casey (RIP).

ABSTRACT

The aim of this study was to test the belief that, seating choices by students are a barometer of their motivation and reflect their personality traits. It was expected that students occupying seats in the front and middle sections of the lecture hall would display greater achievement motivation and be more extrovert than those who chose seats towards the back of the hall. A questionnaire survey was conducted using a convenience sample of 70 Dublin Business School mature Students (N=70) both male (N= 27, 38.6%) and female (N=43, 61.4%). Age range was (18 - 41+). Data was analysed in SPSS using cross-tabulation, chi-square and analysis of variance. There was an association between introversion and end of seat choices. $X^2(4) = 4.169, P \geq 0.05$. Results supported the belief that seats in a lecture hall are not chosen at random by the student but a variety of motivational and personality factors inform their choices.

1. Introduction

The aim of this study is to evaluate the long held belief that seat choices by students reflect their character traits such as social anxiety and extraversion and that these choices are informed by the students own level of academic motivation which impacts on their performance. It was expected that other factors highly influenced seating choices also and these will be measured and discussed. Factors like age, eyesight and hearing, comfort and safety. Students displaying these conditions will choose seats in line with the room configurations of first four rows, middle section, back four rows. Pedersen (1994) contended that seats in a classroom are not chosen at random, situational and personal factors affect the choice (P. 393). He pointed out also that research into this topic is limited and only a few studies have been conducted since being first discussed by sociologist Hilliard Waller (1932) who claimed that students seated at the front of the classroom were zealous and over-dependent, while those at the back were rebellious. This study will build on these assertions and widen the brief to include areas such as motivation and personality.

1.1 Personality influenced by situations.

Raymond Cattell's definition of personality (as cited in Rykman, 2007) maintained "that which tells what a person will do when placed in a given situation". Cattell devised a formula to illustrate this concept. $R = f(S, P)$ i.e. the behavioural response (R) of a person is a function (f) of the situation (S) confronted and the individual's personality (P). On a similar path, Michel (1968) (as cited by Peddington, 2003) declared that there is an assumption that personality characteristics will remain consistent across situations. This concept was termed; cross situational consistency. The theory states for example that, extroverts will act in an extrovert fashion regardless of the situation. Michel reviewed self-report research and concluded that personality variables such as extraversion are poor predictors of personality. For Michel the interaction of the person and the situation predicts behaviour. His formula to describe this theory is: $\boxed{\text{PERSON}}$ person variables \times $\boxed{\text{SITUATION}}$ psychologically meaningful events = $\boxed{\text{BEHAVIOUR}}$ (P.11). It is reasonable to hypothesise that the classroom as a situation interacting with personality variables will cause behaviour in the form of discerning seating choices. If seat selection is a behaviour based on the situation of the classroom, more recent studies tend to discount the notion that was extant in early research (Waller, 1932; Pedersen, 1977; Walberg, 1969). Consistent with recent studies (Mercincavage and Brooks, 1990; Rebata et al, 1993, Pedersen 1994; and Burda and Brooks, 1996) Shia (2011) found that while achievement motivation appears to be higher in students seated near the front, actual performance did not disapprove as students sat further away from the front and higher results were achieved by students in central areas of the classroom. In more recent research (Marshall & Losonczy-Marshall, 2013; (Mercincavage and Brooks, 1990; Pedersen 1974) there has been a shift away from traditional attitudes towards education psychology. Shia

(2011) found that the students in more central areas were equally as motivated and achieved grades on a par with students who sat in the front of class.

1.2 Seating choices and motivation

Internal forces motivate students to sit in particular seats. It may be habit or it may be something of which the student is not consciously aware. Mercincavage and Brooks; 1990; Hillman & Brooks 1991; Dykeman & Reis 1979; Walberg 1969 (as cited in Vander-Schee, 2011) agreed that students seated in the back row have been described as having low self-concept, insecure, less motivated and introverted. Burda and Brooks 1996; Mercincavage and Brooks 1990; (as cited in Marshall & Losonczy-Marshall, 2013) found that students who chose seats near the front scored high on achievement motivation. Levine et al, (1980) found support for the self-select hypothesis which suggests that students who chose to sit in particular locations are intrinsically motivated to do so and that it is that motivation which effects higher achievement and not seating position. Previous mentioned research approached different aspects of the topic of classroom seat selection. While being important they are like pieces of a jig saw puzzle, their findings only form part of the picture. In recent times the inclusion of motivation as an influencing factor in the classroom has been increasing. Motivation has been grouped into two main categories of, intrinsic and extrinsic motivation. However pro-social motivation and the extreme forms of motivation such as passion and its polar opposite amotivation, must also be considered.

1.3 Intrinsic motivation

Passer and Smith (2010) define intrinsic motivation as “performing an activity for its own sake because you find it enjoyable and challenging” P. 277. Shia (2010) posited that intrinsic motivation requires persistence and effort by the individual student who would develop the goal to achieve and learn. The mastery goal which is the need to understand a

topic correlates well with effective learning skills, a positive attitude towards school, choosing more difficult tasks, perceived ability, effort and a concern for future consequences. For intrinsic motivation effort is based on personal enjoyment, is self-determined, volitional and autonomous. Previous studies on extrinsic and intrinsic motivation have categorised students into three groups; those with a task orientation, a work avoidant orientation and an ego orientation. Task or mastery orientation includes students who partake of learning and associated activities to further their knowledge and to improve their skills. Deci and Ryan, (1985) suggested that these intrinsically motivated students may have a need to prove to themselves their competence and self-worth by measuring their achievements.

1.4 Extrinsic motivation

Extrinsic motivation refers to “motives that are outside and separate to behaviours they cause” Shia (2011) and where the goal is to do enough to receive reward, avoid sanction, to win and to avoid loss. In this competitive context, grades, certificates and trophies are seen as markers of success. These reasons for studying can lead students to eventual failure, and resentment (Covington 1999, 2000). (Hoyenga & Hoyenga 1984) declared that adding an incentive was detrimental to intrinsic motivation. Learning can be a social activity and take place either in college or in social settings. Friends, classmates, and study partners learn together outside of college campus. Wigfield, (as cited in Lei, 2010), alluded to the notion that extrinsically motivated students may socially embrace the class leaders for personal gain and mimic pro-social motivation “learning compliance is another social aspect of learning because of an external goal or requirement and because instructors require their students to learn new course information” (p.156). However pro-social motivation involves a momentary

focus on the goal of protecting and promoting the welfare of other people, Grant, (2008). This definition does not fit well with extrinsically motivated students. Intrinsic and extrinsic motivation are not mutually exclusive, students may be in both camps. Ormond (as cited in Lei, 2010) declared that simultaneously seeking verification that the subject has been mastered and striving for good grades is not unusual. Fear of failure is a powerful extrinsic motivator which is inhibitory and leads to avoidant approaches to situations (Shia, 2010). Deci and Ryan as cited in Vallerand (2011) grouped extrinsic motivation into four types: external regulation, where behaviour is carried out to avoid sanction and obtain reward. The second type is called, interjected regulation where the main aim is to avoid internal pressure and guilt. The third type is called identified regulation, to act out of choice. The last type of extrinsic motivation is called, integrated regulation, which is choosing to behave in a manner which is informed by the various characteristics of oneself. These four types of motivation represent a gradual progression of mercenary behavioural styles. Another class of motivation is its absence called; amotivation. “when individuals display a relative absence of motivation. It implies the lowest level of self-determination” Deci & Ryan, (1985). Vallerand (2011) brings our attention to another but little researched form of motivation, passion. Passion involves a special relationship with an activity that one loves. This activity is self-defining, important, meaningful, into which a person invests time and energy. Vallerand (2012) observed but disagreed with the Freudian view of instinctual drives and the Skinnerian theory that people react to environmental contingencies. These two radically differing views both assume that people are passive organisms who react to stimuli. Vallerand considered people as active motivated organisms striving to effect interaction with the environment that will grow them as individuals. Pro-social motivation involves a momentary focus on the goal of protecting and promoting the welfare of other people, which is typically prompted by contact with others who need help (Batson, 1987; Grant, 2007). Grant, (2008), contended that the combination of pro-social motivation and intrinsic motivation are likely to enhance

persistence, performance and productivity. There is evidence to show that intrinsic motivation is positively correlated with learning, achievement and self-efficacy. Conversely it correlates negatively with anxiety, depression, and frustration (Gottfield, 1985 and 1990; Lepper et al, 2005). Bandura 1986 and 1993 (as cited in Lei, 2010) stated “heightened self-efficacy and positive outcome expectations often raise additional intrinsic motivation, thus leading to further quality learning”.(P. 154.) This however can lead to “flow” a term used by Csikszentmihalyi and Nakamura (1989) to describe an intense form of all consuming intrinsic motivation which can be a drawback for students. The present study focuses on motivation as a determinant of seating choices and how it also impacts on territoriality.

1.5 Territoriality in relation to seating choices

Kaya and Burgess (2007) used a 15-item questionnaire to survey the seating behaviour and territoriality in class. They found that those who were more territorial often chose to sit in end of a row seats. The term ‘proxemics’ was coined In1963 by Professor E T Hall. It refers to the study of the use of space in communications. Kurien (2010) warned that we must understand spatial relationship and respect the comfort of others. Edward T Hall defined four zones, the first of which can apply to classrooms. This zone is the intimate zone (0-0.5 m) distance from your neighbour. Sommer 1969; Brown 1987; Kaya and Burgess 2007, (as cited in Vander-Shee , 2011); found that seat positions which offer more room and are easy to defend and reclaim i.e. those at the end of row are sought after by those with a propensity to be territorial. Kaya and Weber (2003) pointed out that females are more likely than males to defend their territory in a classroom setting. Vander-Shee (2011) concurred with previous findings that females are apt to be territorial and select seats based on comfort

either back or front. Territoriality should be considered as a factor regarding seat selection based on gender. Altman, (as cited in Pedersen 1974) contended that an important part of personality involves privacy. Privacy is multi-dimensional and is not just eliminating contact with others and is defined as; “selective control of access to the self or to one’s group” (P. 395). Pedersen (1974) used a (PPS) Privacy Preference Scale to measure this social characteristic which he contended spilled over from the private to the public arena, such as the classroom. The overriding trend in Pedersen’s study is that those students who scored high on the “not neighbouring” and “seclusion” scales tended to be seated in the back third of the classroom. This aspect of seating behaviour is addressed in the present study by the question dealing with privacy, safety and comfort. Territoriality is further assessed by the question regarding always sitting in the same area of the classroom. The present study addresses privacy, territoriality and by extension, not neighbouring or introversion.

1.6 Gender in relation to seat selection

Many theorists, e.g. (Freud, Bandura and Eysenck) agreed that gender roles are learned behaviours in society. Bandura's Social learning theory (1977) stated that children learn by observing the behaviours of models of their own sex. Boys watch their fathers, male teachers and male peer models. Girls watch their mothers, female teachers, and female peer models. Maltby, Day & Macaskill (2010) commented that in addition to parents and teachers, children learn from other successful role models such as siblings or friends who get on well and avoid trouble. They will be influenced by different environments, experiences and cultures, all of which can account for the “observed diversity of human beings”. (p. 84). It is likely that the child will bring the early classroom experiences through every stage of their education. Eysenck later modified his view to define personality as; “the way that an individual’s character, temperament, intelligence, physique and nervous system are organised” Maltby, 2010, (P. 166). Gender norms make their way into the classroom also.

Marshall & Losonczy-Marshall (2013) found that women had a higher grade average and better class attendance than men. Benedict and Hoag (2004) noticed that female students had a preference for central seat location in a large lecture hall while males were more evenly distributed throughout but had a slightly higher preference for the back seats. Burgess & Kaya, (2007) who surveyed different seating lay outs, discovered that males were more at ease in U shaped rows with individual chairs, whereas females were happiest in a cluster type layout with tablet armrest chairs. They recommended that future research should investigate personal space, territoriality and proximity to determine if attitudes can differ regarding gender in terms of seating layout. This study expects to find that females will be more concentrated in central and front areas as opposed to the back section of the classroom.

1.7 Age and disability in relation to seating choices

In the traditional classroom set-up on which the present study is based, students sit side by side in close proximity with little personal space. They may feel compelled to observe social norms and not upset their neighbour by placing college materials on the desk or floor Burgess & Kaya, (2007). A strategy is often employed by older people to compensate for their shortfall in physical and cognitive areas such as hearing and eyesight this tactic is called, “Selective optimisation with compensation”. This is a model of behaviour identified by Baltes & Baltes in the 1980s, (cited by Berger 2007, P567). The outcome is that less agile students who in some cases also experience audio or visual difficulties, often older students, select seats in line with their needs. This approach would place older students in seats nearer the front and in end of row seats. Younger students who are more likely to have more acute hearing and eyesight may gravitate towards the back of class so as not to be under the lecturer’s scrutiny.

1.8 Extraversion as a determinant of seating choices

Students may not be consciously aware of the reason they chose a particular seat. It may be territorial, asocial, pro-social or for audio visual reasons and can be informed by a student's gender, age and experiences. Totusek & Staton-Spicer, (as cited in Benedict and Hoag, 2004) found that students who occupy the "action" seats i.e. front and centre have different personalities and perform better than those seated elsewhere (P. 216). To date most of the research into seating preferences in lecture halls has concentrated on academic achievement. (Burgess & Kaya, 2007; Marshall & Losonczy-Marshall, 2013), noted this point and included personality as a determinant of seat choices in their studies. Cited in Maltby et al, (2010) Burger defined a trait as; "A trait is a dimension of personality used to categorise people according to the degree to which they manifest a particular characteristic" (P. 157). One significant trait which features in many personality tests is extraversion. According to Solod, Wilson & Monte (2009, p. 168, 501) the extrovert is focused on external objects instead of subjective experiences. They are influenced by their social surroundings and are influenced by those close to them. Karl Jung (as cited in Solod et al, 2009) declared that the hysteria can be a reaction of the extrovert as hysterical reactions are essentially attention getting dependant attitudes towards things and people in the environment. Introverts however give weight to their own subjective reactions to external events. They are quite, introspective and focus on their own emotions. Hans Eysenck was so influenced by the ancient Greeks and by Karl Jung's theories that he developed scales to measure such conditions. Pervin et al, 2007 remind us that the ancient Greek physicians like Hippocrates and Galen recognised the existence of four basic personality types based on the four humours of; melancholic, phlegmatic, choleric and sanguine. They are a feature of both modern and ancient culture "they might be a fundamental feature of human nature with a biological basis that transcends time and place" (P. 232). The present study will employ a section the EPQ-R

test to assess student's levels of extroversion and introversion displayed by students in a classroom setting.

1.9 Rationale for seat choice study

Justification for carrying out this study is prompted by Pedersen's (1994), observation that the research into reasons for student seat selection is limited. Most other research in this area concentrates on academic performance. There has not been an Irish study on this topic to date and the third reason to make this study interesting is respondents are part-time students who mostly are employed. For these reason the present study did not consider exam results but through the motivation scores found an association between seat selection and personalities driven by needs to achieve, to be social and to master the various course materials. Marshall & Losonczy-Marshall, (2013) suggested that future studies should directly question participants as to why they have chosen their seats. Few studies have directly asked if student seat choices are linked to characteristics like motivation, achievement or personality factors. Only (Totusesk & Staton-Spicer, 1982, Burgess & Kaya, 2007; Marshall & Losonczy-Marshall, 2013) have directly probed the question of personality traits influencing seating preference. These gaps in existing research shaped the form that the survey took especially the stand alone questions regarding motives for selecting certain areas of the classroom to sit in. (see appendix B). It is the task of this study to add to the previous research and attempt to further evaluate some aspects of this topic. Previous research in the main linked seating choices with results however this study has not taken this direction but has focused on motivational aspects of seating choices. There are five main variables to be compared in this study. Age is a continuous scale demographic variable, gender is a nominal demographic variable, extraversion an ordinal scale variable, seating area an ordinal variable and motivation as a scale variable. The hypotheses been tested include various combination of these variables.

1.10 Main Hypotheses:

- Hypothesis 1. There will be a link between personality and classroom seating choices.
- Hypothesis 2. Students scoring high on extrinsic motivation will be seated in front areas of the classroom.
- Hypothesis 3. Territoriality based on gender will be reflected in seat selection
- Hypothesis 4. Students with an older age profile will not occupy the back area of the classroom.
- Hypothesis 5. There will be a link between end of row seat selection and introversion.
- Hypothesis 6. Students who score high on intrinsic motivation will cite good grades as their most important aspect of college life.

2. Method

2.1 Participants

With the permission of the lecturer, a total of seventy mature part-time students (N=70) completed the questionnaire survey. Of this sample of convenience twenty five (N = 25) were male and forty five (N = 45) were female. Participants ages ranged from (18-30 =29, 41.4%), (31-40 =31, 44.3%) and (41+ =10, 14.3%). All respondents were psychology undergraduates and took part in this study on a voluntary basis understanding that no incentives would be offered for participation. The only inclusion criterion was that respondents must be over 18 years of age and be college students. The survey was a pen and paper questionnaire and expected completion time was seven minutes. All participants were verbally thanked by the researcher for their cooperation and were aware that their answers

would form part of the data needed for the completion of a thesis. The data and the questionnaires will be held securely for one year after the completion of the study.

2.2 Design

This study is a quasi-experimental design. Assignment is not random; subjects self-select conditions and the researcher has no control over variables. It is quantitative, between groups and has internal validity. Previous research was consulted to determine effect size. The lecture hall is the traditional set-up with 12 rows of individual tables each attended by its own chair. The room divisions of front four rows, middle four rows and back four rows form the dependant variables (DV). The conditions of intrinsic / extrinsic motivation, extraversion / introversion, age, gender, disability, comfort, sociality and safety are the independent variables (IV).

2.3 Materials

A four page survey booklet consisting of information sheet and three questionnaires was given to each participant and pens were made available. The data was stored and analysed using SPSS version 21 on a DELL lap top computer. The completed version of this project was printed on a Kodak 315 home printer with additional copies obtained commercially. The hard copies of the questionnaire booklet will be securely retained for one year.

2.4 Procedure

The class lecturer introduced the researcher to the students. A questionnaire booklet was handed out to willing participants. The cover sheet provided the respondents with all necessary details should any queries relation to the research questions arise. The time taken to complete the survey was approximately seven minutes. To provide anonymity the completed

booklets were collected and placed randomly in a folder. The researcher departed the classroom and imputed the survey results from which he compiled a dataset on an SPSS computer programme.

2.4.1 Questionnaire booklet

The information sheet (see appendix A) informed the participants of the purpose of the survey and its voluntary nature, i.e. that no reward would be offered. The right to withdraw without reason was stated along with the researcher's contact details should any issues arise. Participants were reminded that the study had been approved by the DBS Ethics Board and that there were no known risks involved.

2.4.2 An eight question standalone questionnaire

Demographic questions (see Appendix B) regarding age and gender and six questions additional questions concerning reasons for choosing a particular seat. Participants were asked to check a box in each case, e.g. Area of classroom that you are seated in, front middle or back? Do you always sit here, yes or no? Reason for seat choice, beside friends, privacy, safety, comfort, see/hear or other. Do you sit in an end seat, always, sometimes or never? How many classes have you missed this year, none, less than three or more than three? Which aspect of college life is most important to you, good grades, good friends, good social life or mastery of subjects?

2.4.3 Twelve items regarding extroversion

From the Eysenck EPQ_R scale. (see Appendix C) Respondents were required to check either yes or no to the following. Are you a talkative person? Are you rather lively? Do you enjoy meeting new people? Can you usually let yourself go & enjoy yourself at a lively party? Do you usually take the initiative in making new friends? Can you easily get

some life into a rather dull party? Do you tend to keep in the background on social occasions? Do you like mixing with people? Do you like plenty of bustle & excitement around you? Are you mostly quiet when you are with other people? Do other people think of you as being very lively? Can you get a party going?

2.4.4 Academic Motivation Questionnaire

Motivation questionnaire (see Appendix C) Shia, R. Wheeling Jesuit University sixty item academic intrinsic These Questions measure the psychological academic and motivational states of need for achievement and mastery which are intrinsic motivation and four extrinsic factors like fear of failure, authority expectations i.e. family and lecturer, peer acceptance and power motivation. There are ten statements for each factor. Participants were asked to read each question carefully and choose a number on a Likert scale between 1 and 7 which best describes them where 1 does not describe me and 7 strongly describes me. If the response fell somewhere in the middle participants were asked to select a number that best described them.

3. Demographics Data Analysis & Results

Table 1. Demographics of participants by- Rows - Gender - Age

Males

First 4 Rows	Age18 - 30 =2	Age 31 - 40=7	Age 41+=2	Total= 11
Middle 4 Rows	Age 18 - 30=3	Age 31 - 40=6	Age 41+=3	Total= 12
Last 4 Rows	Age 18 - 30=3	Age 31 - 40=1	Age 41+=0	Total= 04

Females

First 4 Rows	Age 18 - 30=9	Age 31 - 40=9	Age 41+=4	Total=22
Middle 4 Rows	Age 18 - 30=6	Age 31 - 40=5	Age 41+=0	Total=11
Last 4 Rows	Age 18 - 30 =6	Age 31 - 40=3	Age 41+=1	Total=10

A reliability test was conducted on the subscales of extraversion, fear of failure, mastery goals, peer acceptance, power motivation and authority expectations.

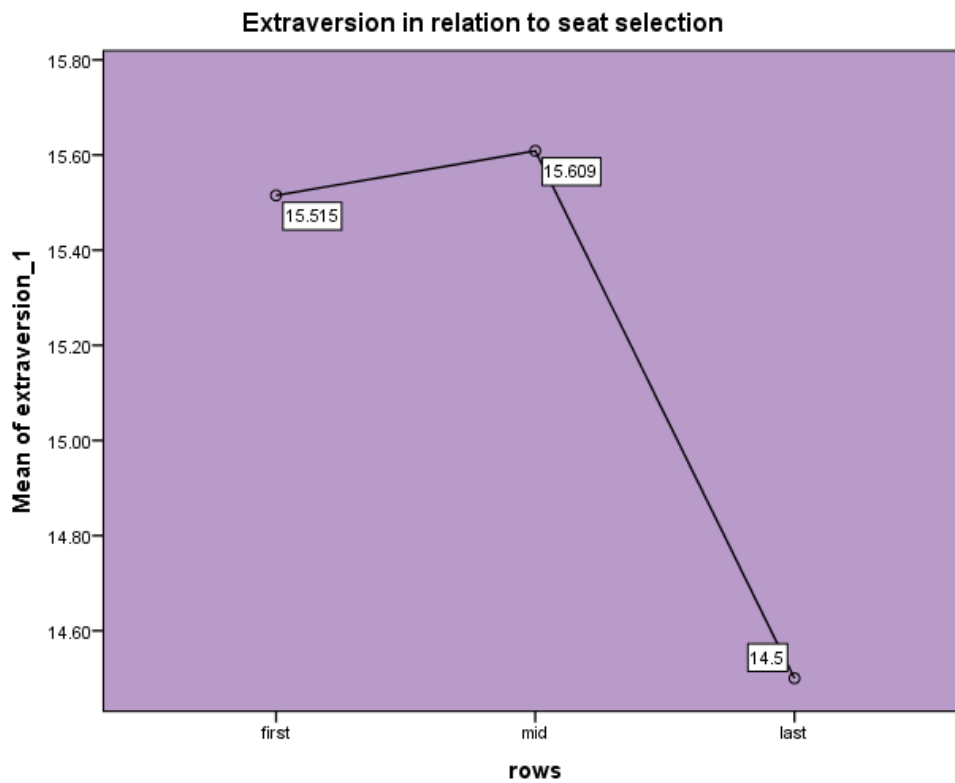
A Cronbach's Alpha reliability analysis was performed on the 12 item subscale of extraversion which was found to be reliable at .874. On the 10 item subscale of fear of failure was found to have borderline reliability at .658. On the 10 item subscale of mastery goals was found to have low reliability at .474. On the 11 item subscale of peer acceptance was found to have low reliability at .233. On the 10 item subscale of power motivation was found to have low reliability at .234. On the 09 item subscale of authority expectations was found to have low reliability at .569.

3.1 Hypothesis 1.

To test hypothesis 1 which predicts that there is a link between personality and seating choices, a one way between groups analysis of variance (ANOVA) was conducted using the independent categorical variable of room areas and the dependent continuous variable of extraversion. The results showed that extraversion did not differ significantly between the three groups. ($F(2,67) = .527, P = .593$). Students in the first four rows ($M = 15.51, SD = 3.52$) do not display more extrovert personalities than students seated in the middle section ($M = 15.60, SD = 3.9$) or the last four row ($M = 14.50, SD = 3.42$). Since there was no significance shown between groups, it was not necessary to perform a Post Hoc test. By

examining figure 1, the means for levels of extraversion of students in the three seating areas of first four rows, middle four rows and back four rows can be seen

Figure 1. Means plot showing extraversion means scores in the three seating areas.



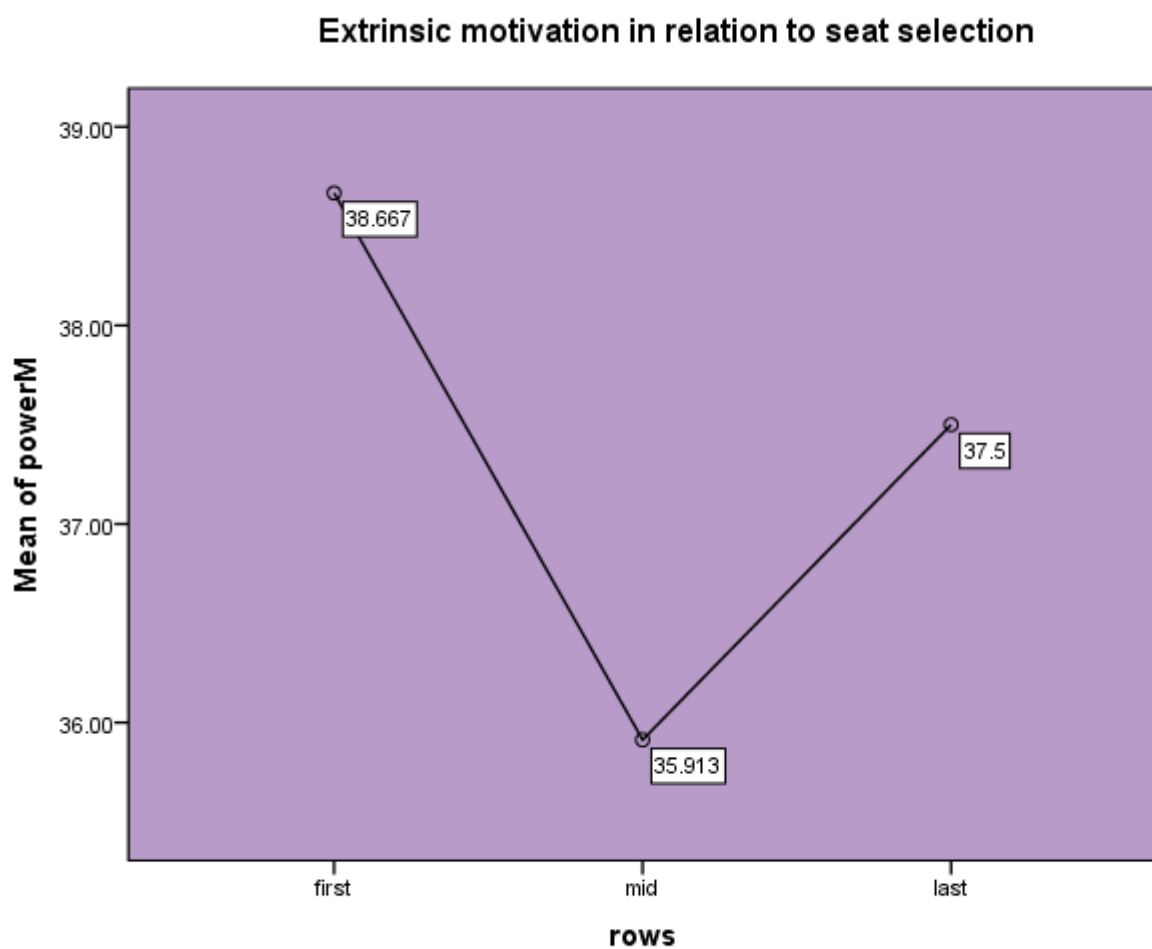
Line plot displaying the means for extraversion in the the 3 classroom seating areas

3.2 Hypothesis 2.

To test Hypothesis 2, which contends that students scoring high on motivation will choose seats in the front areas of the classroom, a one way between groups analysis of variance (ANOVA) will be conducted using the independent categorical variable of room areas and the dependent continuous variable of motivation. The results of the one way analysis of variance test demonstrated that regarding extrinsic motivation there was little difference between students seated in all three areas of the classroom. ($F(2,67) = .684, P = .508$). The front row group ($M=35.51, SD = 9.36$) and the middle area group ($M = 33.04, SD = 5.08$) were almost identical in levels of extrinsic motivation, while the back of room group ($M =$

34.57, $SD = 7.25$) were slightly less extrinsically motivated but not enough to be considered significant. By examining figure 2, the means for levels of extrinsic motivation of students in the three seating areas of first four rows, middle four rows and back four rows can be seen.

Figure 2. Means plot showing extrinsic motivation



line plot displaying the means for extrinsic motivation in the 3 classroom areas

3.3 Hypothesis 3.

Hypothesis 3 predicts that gender will have an impact on and territoriality in relation to seating choices. To test this claim a three way cross tabulation and chi-square analysis was conducted to test the question do you always sit in this area? The explanatory variable of territoriality and the response variable of seating choices are informed by the categorical variable of gender. The results demonstrate that a high proportion of students do choose the same seat, i.e. of the 70 students in this survey 61 or 87% responded that they always choose the same seat. However when broken down into gender the results show that males are more territorial than females. A chi-square analysis of association showed that there was no significant gender difference regarding seat selection and territoriality. Chi-square = $X^2(1) = 3.287$, $P \geq 0.05$. Therefore we cannot reject the null hypothesis. As can be seen by examining table 2, on the question of always sitting in the same area, a higher percentage of males 96.3% answered yes to the question of always sitting in this area of the classroom than females 81.4%.

Table 2. Showing % of participants by gender who always sit in the same area of the classroom

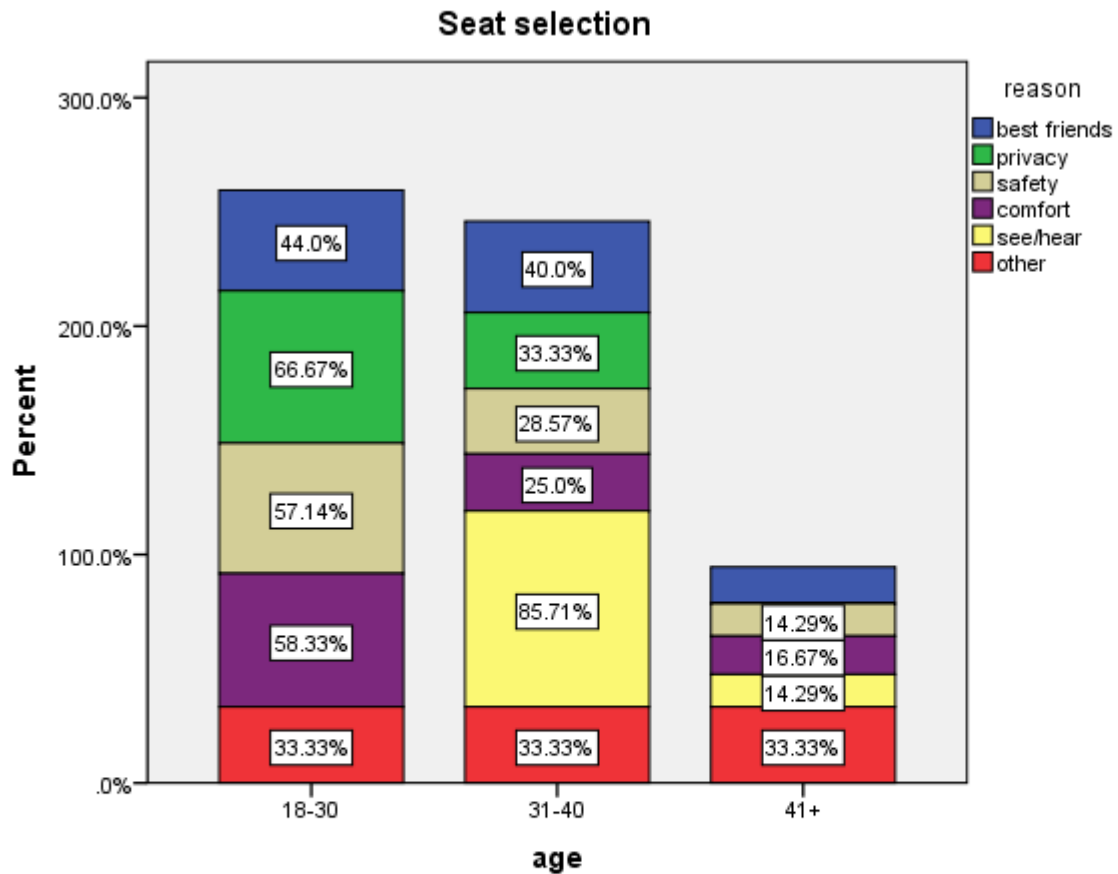
	Male	Female	Total
Yes	26 = 96.3%	35 = 81.4%	61 = 87.1%
No	01 = 03.7%	08 = 18.6%	09 = 12.9%
Total	27 = 38.6%	43 = 61.4%	70 = 100%

3.4 Hypothesis 4.

To test Hypothesis 4, which contends that students with an older age profile, will not occupy the back area of the lecture hall a cross tabulation analysis was carried out with a chi-square

association test. Descriptive statistics shown on a cross tabulation test indicate that only 1 of the 10 respondents who are over the age of 41 years chose seats at the back four rows of class. $X^2(4) = 4.169$, $P \geq 0.05$. Based on these result we fail to reject the null hypothesis. As can be seen by examining table 1, only one respondent over the age of 41 sat in the end four rows. As can be seen by examining figure 3, after good friends, the most popular reasons given for seat choices are; see/hear and comfort. These responses are an indicator that people of an older sage profile would be less likely to choose back row seats. As can be seen by examining figure 3, one third of all participants chose seats for reasons other than the choices provided by the researcher.

Figure 3. Bar chart showing Seat selection reasons



stacked Barchart showing the % reasons for seat selection by age

Table 3. Showing descriptive analysis of variables.

Variables	mean	Standard Deviation
Gender of respondent	1.6143	.49028
Age of respondent	1.7286	.70034
Need for Achievement	49.6857	6.93143

Mastery goals	51.0143	6.97302
Power motivation	37.5286	6.35346
Authority expectations	34.5143	7.74927
Fear of failure	40.2714	8.84475
Peer acceptance	36.6286	6.55229

Figure 4. Showing age and gender of participants.

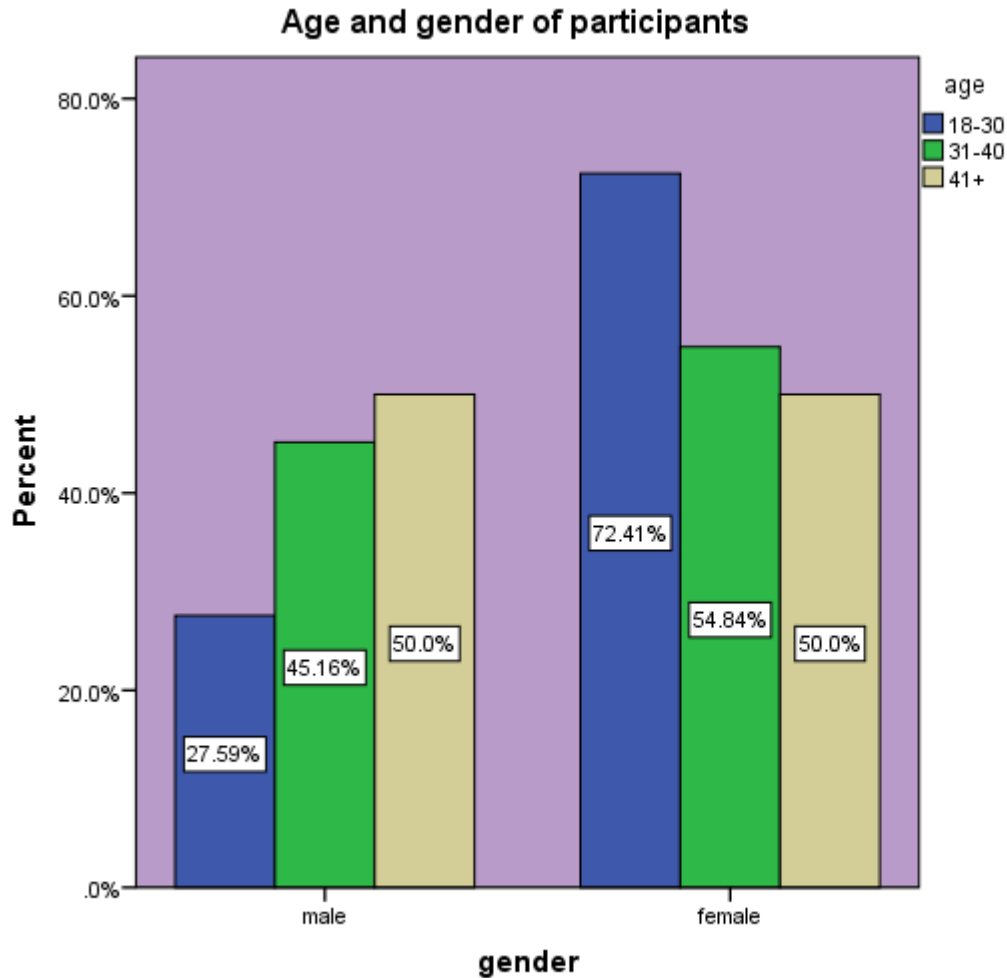


Chart showing participants by % of gender in each age range

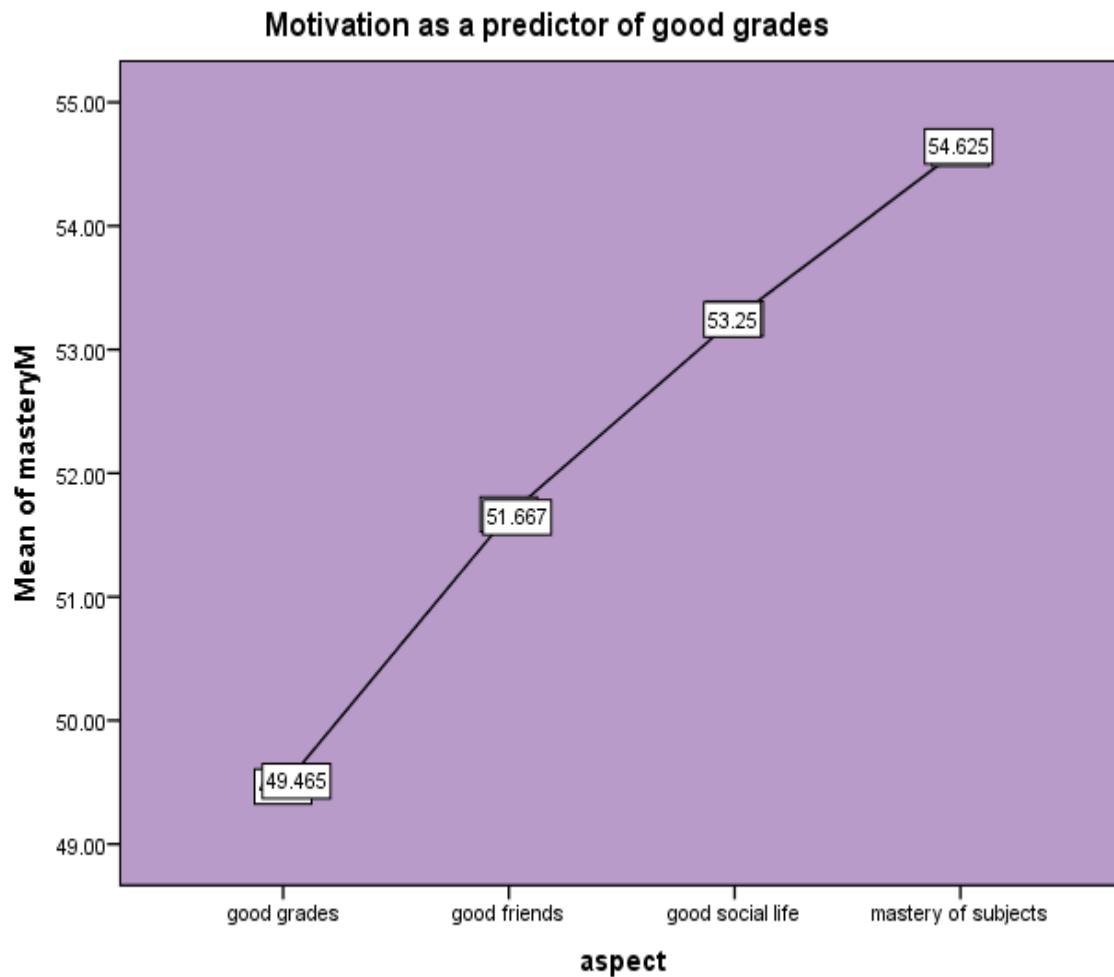
3.5 Hypothesis 5.

To test Hypothesis 5 which predicts an association between end of row seat selection and introversion, a cross tabulation was employed with a chi-square analysis of variance involving the question of staying in the background on social occasions and end of row seat selection. The explanatory variable is introversion and the response variable is seating selection. A high proportion, 86% i.e. (37) of the (43) students who answered yes to the question of staying in the background on social occasions chose end of row seats, always or

sometimes. $X^2(2) = 6.150$, $P \leq 0.05$. This result is significant and the null hypothesis can be rejected.

3.6 Hypothesis 6.

To test Hypothesis 6, which predicts that students who score high on intrinsic motivation will cite good grades as the most important aspect of college life, a one way analysis of variance (ANOVA) was conducted, using good grades as independent categorical variable and motivation as the continuous dependant variable. ($F(3,66) = 2.027$, $P \geq 0.05$). The four categories of good grades ($M=49.5$, $SD= 7.11$), good friends ($M= 51.67$, $SD = 10.70$), social life ($M= 53.25$, $SD = 5.940$) and mastery of subjects ($M= 51.01$, $SD= 6.10$) have very little variance between them with a total mean of 51.01.

Figure 5. Showing means of Motivation**Line plot showing the means of motivation in relation to good grades**

4. Discussion

The aim of the present study was to test the belief that seating choices by students in lecture halls were informed by both their personalities and academic motivation. Hypothesis 1 tests the levels of extraversion in the three seating areas and found mean differences did not vary significantly but there was a slightly lower mean observed for the end of room area. Internal forces motivate students to sit in particular seats. It may be habit or it may be something of which the student is not consciously aware. Burda and Brooks 1996; Mercincavage and Brooks 1990, (as cited in Marshall & Losonczy-Marshall, 2013) found that students who chose seats near the front scored high on achievement motivation. The present study found with hypothesis 2, that highly motivated students were evenly distributed throughout the classroom, with the slight difference result that students in the end of room section less extrinsically motivated than students elsewhere in the classroom. In Marshall & Losonczy-Marshall, (2013), it was seen that seat choice for performance decreased row by row. Extrinsically motivated students prove one's competence while intrinsically motivated students improve their competence (Schraw, Horn, Thorndike-Christ & Bruning, (as cited in Shia 2011). According to Shia (2011), achievement decreases helplessness. Because power motivation increases achievement it is hard to spot as an intrinsic motivator. The two goals of power and achievement are different, just the modus operandi are the same. Hypothesis 3 discussed gender differences and territoriality in seat selection and the prediction that territoriality would be more evident in one sex than the other. Like in many studies the gender breakdown of the present study was that females outnumbered males two to one. In our study territoriality was more noticed in males, which disagreed with previous research, Vander-Shee (2011) & Kay & Weber (2003). Kaya & Weber (2003) as cited by Vander-Shee (2011) found that all students tend to stick with the same seats which they selected at

the beginning of the academic year but display territoriality in not venturing away from their established seat to find partners for group project work. The present study found to the contrary that males were more inclined to be territorial about their chosen seat.

Byrne, Baskett, & Hodges, 1971; Sommer 1969; (as cited in Lombardo, 1986) found that research on spatial positioning has indicated that males prefer to be seated across from liked others while females prefer to sit side-by-side with liked others. These perceptions of being crowded if a stranger is to join the group have not been tested in the present study. Future research however could include proximity to inform privacy, territoriality and introversion as seen in hypothesis 3, where 87% of students declared that they always sit in the same area of the classroom 96.3% males as opposed to 81.4% of females answered yes to this question. The results of testing hypothesis 5 found that the majority of those who chose an end seat scored high on introversion also. Dykman and Reis (1979) assessed the reasons for seating choices on High School students and found that self-concept and class interactions were determinants of these choices. Burgess and Kaya (2007) studied seat selection and gender across different classroom configurations of; traditional rectangular, U-shaped and cluster formation. They determined that females are more at ease in the rectangular classroom, which is used in the present study, than males. Age of students varies as is normal in part-time courses and age of participants is a key factor in the present study since being over eighteen is one of the inclusion criteria. It was hypothesised that students with an older age profile would not populate the back four rows of the classroom. In the present study only one student of those ten respondents over the age of 41 years bucked the trend by reporting a seating choice of end of room as tested by hypothesis 4. There is reason to conclude that since 40% of older students in the survey stated comfort and the ability to see and hear as reasons for choosing their seats that the end of room seats do not fulfil these needs. Hypothesis 6 examines motivation and good grades as the prime incentive for attending

college. Though this study did not test for types of personality it is plausible that some students being considered as extrinsically motivated actually possess type A personalities. Buss & Larsen (2010) described type A personality as having competitive achievement motivation as a sub-trait, where they like to work hard and achieve goals, “they like recognition, power and defeat of obstacles” (P. 577). Type A, personality is so intense it is considered as a contributory risk factor for heart disease in certain situations.

There is an assumption that traits remain constant over time however, they can alter depending on circumstance. Classroom size, design and numbers of students can alter how individuals apply their personality. Parker & Hoopes (2011) declare based on their seat allocation design study that in any given circumstance personality traits remain constant. Students were assigned a stay seat or a move seat. The move students changed seats every day. The conclusion of this experiment was that a small group of students will perform well under any conditions, another group of students will under-perform under any conditions and the larger portion of the class will be influenced by such variables as seating position and personality traits. These findings concurred with Wulf (1977) who found that it was the personality of the student which affected an outcome and not the personality of the lecturer or classroom conditions. A variable which is difficult to quantify in the study of seat selection is the topics and subjects being studied. Do different subjects and different lecturers elicit different seating choices by students? Because there is a wide range of class types, subjects and seating lay-out designs in the existing studies it is difficult to be definitive regarding norms and ensure validity in the area of personality influencing student seating choices. Size may affect the group dynamic where in a big class the introverts have plenty of hiding places and the extraverts have a bigger audience to perform for.

4.1 Limitations of this study

The first limitation to be considered is that of the sample and sample size. Participants were taken from a class of psychology undergraduates only and the number (N=70) may be a little small to reflect the population. It would be interesting to compare samples from other faculties and other colleges with various types of seating lay-outs. The gender imbalance of one third males may have impacted on the findings. The demographic questions could have included nationality and perhaps religion to test if there is any effect of culture on the results. Questions regarding employment status and part-time versus full-time students would enhance the finding of any future studies. The number of questions in the survey was eighty which the researcher considered a suitable amount taking into account that most of the students were tired at the end of a working day. Future studies should include such variables as performance and academic results to factor in academic motivation. To achieve an accurate result and a valid re-testable survey, an interview style in tandem with the questionnaires would yield more reliable outcomes. Though not included in the present study, Pedersen (1994) concluded that students seated in the more central areas showed more intellectual achievement, adaptive personality and were more social than those seated at the front. Vander-Schee 2011; Perkins and Wiseman 2005, showed that the trend for course grades to decrease as distance from the front of the room increases was most pronounced for those whose cumulative grade point average was in the middle third of all students in the study. Cited in Benedict and Hoag (2004), Totusek and Staton-Spicer made the connection between student personality traits and seat selection. They described those who self-selected the action seats or first few rows as practical and imaginative. The study could be also generalised to other disciplines in society such as; public transport, concert venues and

religious services. Three questionnaires were used in this study however additional information perhaps tests for Type A and type B personalities would widen to brief and enhance the findings. Though not tested in this study, socialisation may be responsible for gender differences in seat selection and also sitting positions which in turn can influence seating choices. Morin and Maxfield (2010) declared that men tend to sit in open positions i.e. open arm and leg while women tend to sit in closed positions. They contended that gender differences in body movement and behaviour are not natural and an understanding of this learned behaviour would help to end gender inequality and stereotypes. Children are born sexed but not gendered was suggested by Sigmond Freud, 1905 and Lorber 1994 who cited SImone de Beauvoir, "One is not born but rather becomes a woman, it is civilization as a whole that produces this creature which is described as feminine." (P. 57). Future research may link Bandura's social learning theory with seat selection. Ferssizidis and Adams (2010) explored the effects of gender and age on motivation towards social values. They added a group of older citizens to their student sample. It was found that women endorsed more intrinsic motivation for behavioural commitment to social values whereas men displayed more extrinsic motivation. Older adults displayed greater life satisfaction than younger students. However age was not a predictor of intrinsic motivation. Conducting the present study was a rewarding exercise and served to pinpoint areas for assessment in future research. Though the findings were broadly as expected there is evidence of changing trends in human behaviour since the earliest research into this area was carried out. The classroom is a microcosm of society and contains neurotic and psychotic personalities also. Neurotics who harbour phobias and fears of places, people and things and psychotics who despite being hostile, insensitive and cruel demonstrate a creative genius aspect of their personality, Maltby et al, (2010).

4.2 Conclusion

The present study serves to highlight aspects of the topic of seat selection which have not yet been measured within certain contexts such as behaviour caused by situation and personality interaction. There appears to be debate in some of the existing research whether seat selection had any effect on performance with theorists like Pedersen modifying their views over recent years. However on closer scrutiny these differences may reflect changing approaches and changing attitudes by students to education. The present study sought to demonstrate that personality influences seat selection and not, which is the thrust of many studies already mentioned, that seat selection impacts on performance. The classroom as a representation of greater society, with various personality types therein, provides many situations to influence behaviour. Like in the classroom there is a sense of ownership attached to a seat whether on a bus, in a church or any situation in which people embrace their seat comfort zone. In the 1970s Stanley Milgram decided to test the attachment that people had towards their seat on the New York subway. He called the experiment “excuse me may I have your seat” the “you’re” suggesting ownership. Milgram’s young researchers were reluctant to do the test. Since there were very few volunteers, Milgram himself undertook the task. He froze at the idea of asking a stranger for their possession, their seat. The surprising fact to emerge from this experiment was that 68% of fellow passengers agreed to surrender their seat when directly asked. The overall message from the present study is that people do not choose seats at random and the maxim still holds true, “where you sit is where you stand”.

Appendix A.

Information sheet for Participants.

Dear Fellow Students,

My name is Peter Casey. I am a Psychology undergraduate at DBS. My supervisor is Dr. Garry Prentice, Department of Psychology DBS. I would be grateful if you will take part in my research by completing this questionnaire on the seating choices of college students.

Completion of this survey is expected to take approximately 7 minutes. There are no known risks to your wellbeing. Participation in this survey is totally voluntary. You may withdraw at any time. Your answers are confidential and anonymous. The results of this survey will be made available to you on request.

This study has been approved by DBS Ethics Board. If you have any enquiries, please contact me at; Telephone: E-mail:

Peter Casey.

Appendix B.

Demographic Questions.

Please read the following questions. Tick one option only.

A Which area of the classroom are you seated in? First 4 rows Middle section Last 4 rows

B Gender: Male Female

C Age group: 18 to 30 31 to 40 41+

D Do you always sit in this area of the classroom? Yes No

E Reason you chose this seat. Beside friends Privacy Safety Comfort See/Hear Other

F Do you sit in an end of row seat? Always Sometimes Never

G How many classes have you missed this year? None less than 3 More than 3

H Which aspect of college life is the most important for you?

Good grades Good friends Good social life Mastery of Subjects

Appendix C.

12 items from EPQ Please read each questions carefully. Please tick either YES or NO

1.	Are you a talkative person	YES	NO
2.	Are you rather lively?	YES	NO
3.	Do you enjoy meeting new people?	YES	NO
4.	Can you usually let yourself go & enjoy yourself at a lively party?	YES	NO
5.	Do you usually take the initiative in making new friends?	YES	NO
6.	Can you easily get some life into a rather dull party?	YES	NO
7.	Do you tend to keep in the background on social occasions?	YES	NO
8.	Do you like mixing with people?	YES	NO

9.	Do you like plenty of bustle & excitement around you?	YES	NO
10.	Are you mostly quiet when you are with other people	YES	NO
11.	Do other people think of you as being very lively	YES	NO
12.	Can you get a party going?	YES	<u>NO</u>

Appendix D.

Academic intrinsic Motivation

Regina M. Shia

Wheeling Jesuit University

Read each question carefully and choose the number which best describes you. There are no right and no wrong answers, simply choose 1. if the sentence does not describe you at all and choose 7. if the sentence strongly describes you. If you describe yourself as somewhere in the middle, rate yourself accordingly.

PLEASE TICK THE NUMBER THAT BEST SUITS YOU.

1. = DOES NOT DESCRIBE ME

7. = STRONGLY DESCRIBES ME

1. I want to learn everything I need to learn.	1	2	3	4	5	6	7
2. Finishing an exam first leaves me afraid that I did something wrong or forgot something.	1	2	3	4	5	6	7

3. No matter how much I like or dislike a class, I still try to learn from it.	1	2	3	4	5	6	7
4. When faced with a difficult test, I expect to fail before I expect to do well.	1	2	3	4	5	6	7
5. I sign up for the same classes that my friends sign up for.	1	2	3	4	5	6	7
6. I feel that challenging assignments can be great learning experiences.	1	2	3	4	5	6	7
7. College helps me to gain valuable knowledge.	1	2	3	4	5	6	7
8. My quality of performance is dependent on my grade in the class.	1	2	3	4	5	6	7
9. Academics are the last thing that I want to talk about when hanging out with my friends	1	2	3	4	5	6	7
10. When I receive a low grade on an exam, I try to hide it from others.	1	2	3	4	5	6	7
11. I feel good about myself when others do not understand material that is clear to me.	1	2	3	4	5	6	7
12. I learn simply for the sake of learning.	1	2	3	4	5	6	7
13. When I have to make an academic choice, I go to my parents for advice.	1	2	3	4	5	6	7
14. I prefer difficult tasks as opposed to moderate tasks.	1	2	3	4	5	6	7
15. I never boast about my grades.	1	2	3	4	5	6	7
16. I am not one of the smartest students in my class.	1	2	3	4	5	6	7
17. I am satisfied with an average grade, as long as I learn from my mistakes.	1	2	3	4	5	6	7
18. I sign up to take the easiest teacher so that my grades will be better.	1	2	3	4	5	6	7
19. I feel helpless about school after receiving a few bad grades.	1	2	3	4	5	6	7
20. I have no preference to impress "power figures".	1	2	3	4	5	6	7
21. Finishing an exam quickly makes me feel good.	1	2	3	4	5	6	7
22. I work best in a group environment.	1	2	3	4	5	6	7
23. I do all that I can to make my assignments turn out perfectly.	1	2	3	4	5	6	7
24. I feel more accepted by others when I receive a good grade on a test.	1	2	3	4	5	6	7
25. I sign up for the classes that will prepare me for the future.	1	2	3	4	5	6	7
26. I have high expectations of myself.	1	2	3	4	5	6	7
27. I see myself as well-informed in many academic areas.	1	2	3	4	5	6	7
28. I get frustrated when I find out that I did not need to study as much as I did for a test.	1	2	3	4	5	6	7
29. Sometimes I do more than I have to for an assignment to help me understand the material	1	2	3	4	5	6	7

30. I find my ability to be higher than most of my peers.	1	2	3	4	5	6	7
31. I enjoy learning about various subjects.	1	2	3	4	5	6	7
32. Being in college gives me the opportunity to prove to my family that I can achieve some	1	2	3	4	5	6	7
33. I wait till the last minute to complete my assignments.	1	2	3	4	5	6	7
34. I would only sign up for a club if it helped me reach a long-term goal.	1	2	3	4	5	6	7
35. I feel ashamed when I receive a low grade.	1	2	3	4	5	6	7
36. I have no problem telling my parents when I receive a bad grade on an exam.	1	2	3	4	5	6	7
37. I feel that my ability is sufficient in the classroom.	1	2	3	4	5	6	7
38. Even when I have studied for hours, I don't feel that I have studied enough.	1	2	3	4	5	6	7
39. I get nervous when my professor begins to hand back tests.	1	2	3	4	5	6	7
40. I enjoy challenging tasks.	1	2	3	4	5	6	7
41. I get frightened that I will not remember anything when I take a test.	1	2	3	4	5	6	7
42. In my studies, I set short term, goals.	1	2	3	4	5	6	7
43. I have no doubts that I will achieve my academic goals.	1	2	3	4	5	6	7
44. My academic interests are not influenced by anyone but myself.	1	2	3	4	5	6	7
45. It is important to complete assignments the way that my professor would want them co	1	2	3	4	5	6	7
46. It does not bother me when others perform better than I on a test.	1	2	3	4	5	6	7
47. When I do poorly on an exam, I feel that I let my professor down.	1	2	3	4	5	6	7
48. I feel good about myself when I finish a difficult project.	1	2	3	4	5	6	7
49. I like to spend time reading about things that interest me.	1	2	3	4	5	6	7
50. I try to live up to what my professor expects out of me in the classroom.	1	2	3	4	5	6	7
51. I try to do my best on every assignment.	1	2	3	4	5	6	7
52. I like to be one of the most recognized students in the classroom.	1	2	3	4	5	6	7
53. I sign up for the same classes that my friends sign up for.	1	2	3	4	5	6	7
54. I have the same attitude toward college as my friends.	1	2	3	4	5	6	7
55. I study best when I am alone.	1	2	3	4	5	6	7
56. I still want to go to class even when my friends don't go.	1	2	3	4	5	6	7

57. I feel that the smarter I am, the more accepted I will be by other students.	1	2	3	4	5	6	7
58. My grade point average is nowhere near the grade point average as my friends.	1	2	3	4	5	6	7
59. I feel that I should be recognized when I demonstrate my abilities in the classroom	1	2	3	4	5	6	7
60. I set high goals for myself	1	2	3	4	5	6	7

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