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Congruence between interest and field of study as determinant of academic achievement among University students in Gilgit-Baltistan

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COMMENTARY

CONGRUENCE BETWEEN INTEREST AND FIELD OF STUDY AS DETERMINANT OF ACADEMIC ACHIEVEMENT AMONG UNIVERSITY STUDENTS IN GILGIT-BALTISTAN

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Abstract

This research was designed to test the concept of congruence and its impact on Pakistani students' academic achievement as postulated by Holland. A total of 133 participants from various departments of Karakoram International University, Gilgit-Pakistan have participated in this study. The Career Key Urdu that is adapted form of Career Key by Jones (2010) was administered to participant to measure their personality type and students obtained marks in last semester were recorded to assess their academic achievement. Results support the concept of "congruence" in Gilgit-Pakistan and congruent group has higher academic achievement as compared to incongruent group.

Keywords: Congruence, interest, personality type, academic achievement

Literature Review

Holland's theory (1994 &1997) has been extensively studied in the west while in Pakistan this is relatively unaddressed area. However, it is most important concept to consider while providing career and academic counseling.

The theory has categorized individuals into six personality types on the basis of their career interest; Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Realistic styles tend to choose to ordered and organized handling of objects, gears, apparatuses, and animals. Investigative types value science, usually interested in examination of bodily, living, and traditional singularities. Artistic types are interested in ambiguous, free, and non-systematic activities. Social types like to work with other people; take care of them, train, and instruct them. Enterprising styles incline to be self-assured, sociable and try to manipulate others to reach organizational objectives. Conventional types recognize themselves as compliant and organized, value business and economic achievement and like activities of manipulation, organization, and maintenance of records, documents, and data (Vicente & Fernandez, 2003).

Before discussing the role of personality/interest in choosing subject of study and its influence upon students' academic achievement, we incorporate literature about students' personality. A wide pool of studies revealed that students enrolled in different majors have different personality (Harris, 1993; De Fruyt&Mervielde, 1996; Marrs, Barb & Ruggiero, 2007).

According to Hu and Gong(1990) and Harris(1993) students enrolled in natural sciences tended to be more introverted than social sciences, art, humanities, medical students, and applied science students. Additionally, natural sciences students attained lesser totals on openness to experiences as compared to humanities, social sciences, and political sciences students (Kline&Lapham, 1992; De Fruyt&Mervielde, 1996; Marrs, Barb & Ruggiero, 2007). Students enrolled in social sciences attained higher scores on openness to experiences as compared to law, economic, arts, natural, and applied sciences students (Kline &Lapham, 1992; Harris, 1993; De Fruyt&Mervielde, 1996; Rubinstein, 2005; Marrs, Barb, & Ruggiero, 2007). Scores in extraversion and conscientiousness were higher for business and law students as compared to humanities and social sciences students (De Fruyt&Mervielde, 1996).

In addition to the categorization of personality based on interest, Holland's theory has also classified the environment into the following six domains; Realistic, Investigative, Artistic, Social, Enterprising, and Conventional (RIASEC). Individuals tend to explore/choose the working environment or field of study that best match (congruent)with their interest that is the particular personality type. Differences in personality effects students' choice of a specific academic career (Balsamo, Lauriola, &Saggino, 2012) and students are expected to grow when their personality is good fit with the available environmental characteristics (Holland, 1985, 1996, 1997). The poor fit between students' interest and subject of study negatively affects students' health and academic outcome at school and a better fitting mark college lives fewer hectic for students which eventually reduce the dropout rate from college (Schmitt, Oswald, Friede, Imus & Merritt, 2008; Wintre et al., 2008; Allen & Robbins, 2008, 2010; Gilbreath, Kim & Nichols, 2010; Tracey, Allen & Robbins, 2011).

Congruence is another important concept of Holland's theory and it is a center of attention for career and academic counselors and researchers since its development. Nel (2006)assumed that the degree to which the personality and the environment match is known as the person-environment fit. This fit is very important because people search environment which facilitate them to work-out their skills, abilities, and direct their attitudes and values. This has an important application for students because academic performance is depending on the interaction between their personality and corresponding environment. A wide pool of studies reported the congruence as predictor of students' academic achievement like Tracey and Robbins (2006) reported findings of a longitudinal study where congruence between interest and college major predicted students GPA earned. The underlying theory that career counselor most use today is the combination between personality type and academic field and this congruence has positive association with both career and academic success and contentment (Jones, 2010). Smart, Feldman, and Etherington (2000) have reported that students tend to select educational environments which match their personality because the congruence between their interest and academic environment can affect their level of academic satisfaction and success. In conclusion, the person-environment fit model works as a precursor for students' academic achievement.

The objective of the present study was to examine Holland's concept of "congruence"-it was operationally defined as match between students' field of study and their personality type/interest- and its impact upon students' academic achievement in Gilgit-Baltistan, Pakistan. The findings of research would be beneficial for academic counselors, teaching professionals, and concern authorities of educational institutes. They would be able to guide their students according to their interest so that students will have favorable environment to ensure their higher academic outcome and career attainment.

Hypotheses

On the basis of research objectives and reviewed literature following hypotheses were framed to test in this research.

1. Students' personality type would match with their field of study.
2. The congruent group would have higher academic achievement as compared to incongruent group.

Method

Participants

A total of 133 (80 males & 53 females) students- 68 students from business administration, 9 from mathematics, 21 from international relations, 19 from economics, and 16 students from biological sciences department- have participated in this study. Their age ranged from 18-31 years with mean 23.14 and SD 2.15. Only those students have included in this research who have completed at least one semester and promoted to next one in order to record their previous semester result. New and failed students in semester exam were not included.

Measurements

Demographic Information Form. This form was designed to obtain participants' personal information like gender, age, department of study and obtained marks in previous semester.

Career Key Urdu (CKU). This is adapted version of Career Key (Jones, 2010) especially developed for Pakistani culture. The CKU assessment consists of two parts: 42 occupational titles and 24 statements. The occupations were selected to represent the six RIASEC types. Users are asked to rate each occupation according to its interest or attractiveness to them by using a three-point scale ranges from definitely interest or attract you in some way (2), might interest you (1), and any that that you are undecided about, that do not sound interesting, or that you would dislike (0). The 24 statements (four for each RIASEC type) describe each RIASEC category rendering to four features: favored activities, capabilities, self-perceptions, and values. Each statement can be rated on 3-point scale ranges from very true of you (2), mostly true of you (1), and does not describe you (0). Results for the two sections are summed for each of the six RIASEC personality styles.

In the present research the cronbach alphas were .70, .76, .78, .52, .63, and .68 for Realistic, Investigative, Artistic, Social, Enterprising, and Conventional types respectively.

Procedure

After getting formal consent from concern authority and participants, participants were selected according to the inclusion and exclusion criteria. The CKU was administered to selected participant in class setting and their obtained marks in last semester were also recoded to assess their academic achievement.

Results

We have evaluated our results at two levels. In the first step, students were categories into two groups-*Congruent and Incongruent group*- based on the level of congruence between their field of study and personality type (interest). For example, students who have congruence between their field of study and personality type (interest) constituted the congruent group while students who haven't congruence between their field of study and

interest made the incongruent group. After categorizing them, the academic achievement was compared between matching and non-matching groups.

As depicted in table 1, the mean scores range from 7-12 for RIASEC types, wherein participants'

Table 1

CKU scales mean, standard deviation, and cronbach alpha (N=133)

Scale	Mean	Std Deviation	Cronbach Alpha
Realistic	7.9	3.5	.70
Investigative	8.4	4.4	.76
Artistic	7.5	4.6	.78
Social	12.3	3.1	.52
Enterprising	11.7	3.8	.63
Conventional	10.9	3.8	.68
Academic Achievement	64.3	8.9	N/A

score is higher for Social type and lowest for Artistic type. The mean score of academic achievement is 64.3 with SD of 8.9.

Table 2, shows the frequencies of CKU summary codes for students from various field of study. Students whose perspective field of study is Business

Table 2

The frequencies of highest summary codes for students from different subjects of study on six personality types measured by CKU (N=133)

Department	CKU Summary Codes					
	R	I	A	S	E	C
Business Administration	1	2	6	13	31	17
Mathematics		4		4	1	
International Relations	2		3	13	3	
Economics	2	1	3	3	2	8
Biological Sciences		10		4	1	1

Note. Read R as Realistic, I as Investigative, A as Artistic, S as Social, E as Enterprising, and C as Conventional.

Administration; their dominant summary code is Enterprising that is the highest code for 31 students' followed by Conventional; the highest summary code for 17 students'. Business Administration students should have an Enterprising type as their first summary code according to Holland's classification. These findings revealed that the majority of students who study business administration have congruence between their field of study and personality type.

The highest summary code for mathematics students is Investigative and Social that is 4 students for each. According to Holland's classification mathematics' students should have the first summary codes of Investigative and Conventional types. These findings show a moderate congruence between students' field of study and personality type.

The dominant summary code for International Relations' students is Social; the highest summary code for 13 students'. There is congruence between students' field of study and their personality type.

Students whose field of study is Economics; the dominant summary code is Conventional that is the highest code for 8 students also consistent with theoretical postulations of Holland.

The dominant summary code for Biological Sciences students is Investigative that is the highest summary code for 10 students. These findings also revealed the congruence between students' field of study and personality type.

Table 3, represents the comparative academic achievement between congruent and incongruent groups. The result is statistically significant,

Table 3

Comparison of academic achievement between congruent and incongruent groups

Group	N	M	SD	df	t	p-value
Congruent Group	64	67.9	7.3	131	4.8	.001
Incongruent Group	69	61.1	9.2			

Note. Congruent Group = consist of students who have congruence between their field of study and personality type. Incongruent Group = consist of students who haven't congruence between their field of study and personality type.

it implies that the students who have congruence between their field of study and personality type have higher academic achievement as compared to the students who have no congruence between their field of study and personality type.

Discussion

This research examined one of the most important concepts of Holland's theory "Congruence" and its impact upon students' academic achievement in Gilgit-Baltistan, Pakistan. Our findings support the Holland's concept of congruence, where majority of students in their respective field have congruence between their field of study and personality type/interest. College students' choice of their major subject resulted from specific personality profiles (Balsamo, Lauriola, & Saggino, 2012). Garrat (1985), Ainley, Jones, and Navaratnam (1990) and Athanasou (2001) reported that there was a strong relationship between interest in

a particular subject and enrolment in that subject. Dellar (1994) found that for Australian school students interest in a subject to be a very important factor.

Garg, Kauppi, Urajink, and Lewko (2010) have studied the track alterations in vocational choice over five year's duration and the influence of background and practical factors on future choice. The main reason of track changes as reported by both male and female participants was interest and it contributed as significant unique variance to predict career choice five years later. Interest also works as a vital variable in students' stay in the entering major, as reported by Jeff and Steven (2008) interest-major fit independently predicted students' stay in their entering major.

Additionally, findings also support "the congruence as determinant of students' academic achievement hypothesis" for this population. It implies that students' academic outcome is a function of congruence between personality and the available environment. According to Feldman et al (1999) pupils in matching fields reflected increase in their leading skills and interest over time while incongruent students showed less of an increase or a decrease in abilities and interest. The highest academic achiever students reflected the most amount of congruence between personality and environment and the lowest academic achiever students reflected the lowest amount of congruence (Posthuma & Navran, 1970). College students who have congruence between their personality and college major, obtained higher grade-point averages than students who were incongruent (Reuterfors, Schneider, & Overton, 1979).

The congruence between interest and major field of study also has an undeviating influence on well-timed accomplishment of degree. Hints, students who have interest in their subject of study tend to complete the degree on time (Jeff & Steve, 2010). Bruch and Kreishok (1981) tested the congruence hypothesis with a group of freshman engineering students and found that students who have match between their personality and subject of study were more successful than students who haven't congruence between their personality and subject of study. Vocational interest is one of non-cognitive factors that influence students' academic achievement (Brown, 1994; Holland, 1968; Schneider & Overton, 1983). Students have interest in the subject of study perform better than students who haven't interest in the subject of study.

As summary, the congruence between students' field of study and personality exist and works as determinant of their academic achievement in Gilgit-Baltistan, Pakistan.

Recommendations

On the basis of our findings and relevant empirical evidences the following recommendations are offered:

1. All concern authorities of educational institutes are recommended to assess students' interest before offering them any educational course.
2. Admission in educational institutes should be based on students' interest.
3. Educational and career counselors are recommended to guide their students on the basis of their interest for future study.

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There is no prescription for leadership. By definition, it is individual. It is about morality, character and values. That's why it is really an incredibly difficult task to take on. M. S. 'Vindi' Banga

David Olive & Gita Piramal, *The Quotable Tycoon: A treasury of business quotations*, Page 113