

## **Impact of Career Development Programs on Academic Motivation and Career Maturity of Students**

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### **ABSTRACT**

The aim of the present study is to explore the impact of career development programs on students' academic motivation and career maturity. The study also investigates the relationship between career maturity and academic motivation. In the research instrument, five different age groups are demarcated to study their interests. Data is collected from the students of the different educational institutions. Sample size for the study undertaken is 334 out of which 125 are males and 209 are females. Results indicated Different hypothesis are tested by using the statistical tests like ANOVA, Pearson correlation and linear regression. From the tests, it is concluded that most of the students have career maturity level above average and there is no gender effect on academic motivation and career maturity.

**KEY WORDS:** Career Development Programs, Motivation, Career Maturity, Intrinsic, Extrinsic

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### **INTRODUCTION**

Students are an important part of this society. College is a time when students make vital life and career decisions. Every student wants to have a good education and good job after completing his education life. To have a good life one must be satisfy with the education he is getting and for this students must have proper and adequate knowledge about their field of study they have chosen when they got admission in the university. The main reason of picking this area is to divert the attention towards Career development, its role in the life of a student. So the aim or the research problem was to identify the role of Career development programs on the student.

Career development is an important part of a student's educational career. For having a good career after completing academic life, students must choose that field which is of their interest and for this one need a proper guideline through a specific trained professional or via a career development programs. Career development programs are those programs that are organize by different institutions or by different organizations in the different departments of the respective university. Career Development Programs are organized to provide individuals with career consciousness, self-progress, and career decision-making skills. The aim of the present study was to evaluate a career development program, which had been developed with a theoretical foundation that informed the intervention process. It deals with you are deciding either to change a field of study you have selected or career, or want to continue with that. Career development programs are developed to tell students that how they can use their skills after completing studies for getting a job. Moreover, students do not have idea that what job is best or suitable for them. Therefore, these programs must be developed or organized in each and every department of every university to aware the students about their hidden skills.

Motivation is basically the driving force behind the human behavior. It is basically the willingness of the person to engage in a meaningful task (Mnyandu, November,2001).The concept of motivation was introduced around in 1930. It was studied that what is that thing which drives the people to take particular action for any work of the world either related to any work or related to studies. A person who feels no inspiration to act is the person who is not motivated and has no courage and energy to do any work, whereas the person who is very activated and has tendency to complete his work with great energy is considered to be motivated (Deci and Ryan, 2001). However, one can describe the motivation as, intrinsic motivation and extrinsic motivation.

Intrinsic motivation states the inspiration, which is derived by inner concentration or enjoyment in the task itself, and subsists within the person instead of depending on any external pressure or force. Intrinsic motivation is also derived by self-satisfaction. As the word intrinsic itself describes that it is internal force of motivation, which is based on taking pleasure and individual own need in an activity rather than for some other external reward. Intrinsic motivation was studied since 1970s. An individual, who is motivated, feels energy or inspiration to act, whereas an individual who is not motivated feels no energy and impetus to act gratefully (Ryan Richard and Deci Edward, 2000). Extrinsic motivation as the word describes it is an external factor, which causes motivation in an individual. It is the performance of an activity in order to conquer a result, which then opposes intrinsic motivation. The

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constructs of extrinsic motivation are higher grades / reward, competition, performance. Extrinsic motivation can be explained as, “it pertains to a wide variety of behaviors that are engaged in as a means to an end and not for their own sake” (Deci E. , 1975). Extrinsic motivation is in the form of rewards, higher grades best performance and these factors are related to deadlines, threats and completion of tasks which can week the intrinsic motivation because individual perceive them as a behavior control techniques (Ryan Richard and Deci Edward, 2000).

Career maturity describes the individual’s willingness and keenness to deal with career related progressive and developing tasks, which he or she may be confronted with on a daily basis (Bernard-Phera, 2000). Experimental findings regarding gender variations as an element associated with career maturity are not consistent. Some researchers shown that females are more career mature than males (Chodzinski & Randhawa, 1983)(Graef, Wells, Hyland, & Muchinsky, 1985)(Crites, 1973), while Guthrie and Herman (1982) presented no conclusive results. Van Tonder(1988) showed that male career mature students are of different profiles from those of females who showed and revealed career maturity. However, Watson, Stead and De Jager(1995) had researched on the South African students and hence concluded that gender had no significant effect on the students’ career maturity of university. Career maturity can be measured by generating four dimensions. These dimensions are: career planning, exploration, information, decision making.

Career maturity originated as the construct in the career development theory, proposed by Super (1957), so it the main theme while discussing any career related theory. When one has to define the concept of career maturity then it is important to know that what does meaning of career. In the research, there were many literatures for this. Career is a pre-planned direction, which is specifically followed by an individual over a time that includes a dipped into a specified role (Schein, 1977). According to National Career Development Association (NCDA), career is the whole totality of work in which an individual is evolved during the life (Sears, 1982). Moreover, Super (1977). He defined the career as “the sequence of events that organize the life very well”. From the different definitions of Super (1977), it is clear that career is the basic thing, which spans a person’s whole life. It includes varying process instead of static state. It makes the person responsible for the life through constructing the links between individual and the working environment.

## **Objectives**

The significance and main objectives of this research are

- To find out the impact of career developing programs on students’ motivation and maturity
- To find out the relationship between students’ motivation and career maturity
- To find out the interest of the students with respect to their subjects
- To find out the students motivation level in accordance with their subjects and career maturity

## **1. LITERATURE REVIEW**

### **1.1 Career Development Programs**

Career development is a process, which requires a wide range of intellectual, perceptive, academic and behavioral activities. All these factors are necessary and important for obtaining information about themselves and the environment. Moreover, a significant, productive and dynamic career is not only the most effective substantial way to contact with reality but it also provides economic way to have effect on social change (Crites, 1981). Planning your own career development will help you to be successful person. Nearly about twenty years ago, many black people selected their career on a trial-and-error basis this is because they had not been well trained to take good career decisions. (Hartman, 1988).

It has been started in the years of Frans Parson as a trait-factor approach in twentieth century (Betz, Fitzgerald, & Hill, 1989), (Zunker V. J., 2002). As career development is the most essential part of the career planning so without proper guidance and responsiveness of the connection between endeavors and futures, students may lose the path of school purpose. As a result, students with fewer relevancies regarding their schooling do not put satisfactory effort at school and then they may even drop out of the school. Recognizing the career development interventions has the capacity and power to boost up the purpose of school for students and this make the educational planning meaningful (Dykeman, 2003). Planning and career maturity, both are often associated with each other. Success of the student depends upon both commitment and academic skills, which come from direction and career maturity. (Gray, 2000).

### **1.2 Academic Motivation**

Motivation has been an important factor for achievement and academic learning across childhood through adolescence (Elliott & Dweck, 2005). Motivation is a multi-dimensional phenomenon or process because motivation means being engaged in activity while having interest for that, this shows that individuals have various explanations

for keep themselves engaged in an activity. When students reach at the level of university for the first time, they feel a freedom. This is the time when students' academic motivations dictate the choices that they make. Sometimes they need different standards and expectations that they required (Clark & Schroth, 2010). The most important elements for quality education, is the student motivation. However, to know that how the students are motivated is important. They pay attention to their studies, they ask frequent questions, answer questions immediately with a proper logic, the start working on specific tasks aligned by their teachers and they appear to satisfied or eager to help others (Palmer, 2007).

Self-determination researchers postulate that academic motivation is multidimensional property, and it contains intrinsic and extrinsic motivation (Deci & Ryan, 2002). To be motivated, is the most important factor that educators can target in order to improve learning and behavior of the students. There are varieties of ways to motivate students, including self-satisfaction, interest, self-fulfillment, higher grades, competitive environment, good behavior, courage from teachers, and positive response from family and helping friends.

### **1.3 Theoretical Perspective**

Theorists proposed theories of motivation with describing human behavior. Students' academic performance, academic engagement, choice of activity and persistence is explained by motivational theories (Meece, Anderman, & Anderman, 2006). Most widely accepted theory is the Goal Theory. It assumes the two main types of motivation for students i.e. performance oriented students and task oriented students

In the very first type, performance oriented students are mainly concerned with how to prove their proficiency by getting good marks and grades. They are only concerned with having a good performance as compared to other students (Anderman & Midgley, 1997.)(Maehr & Midgley, 1991). The second type of students is those students, which are task oriented and are motivated by the desire or wish and want to have much knowledge about the subject. These students also learn the subject with complete enjoyment. The research had proven that students with task oriented are more involved in the challenging tasks. These students have made an intellectual strategies for themselves and they seems happier with their institute and with themselves as learners (Ames, 1992)(Anderman & Midgley, 1997.)

### **1.4 Types of Motivation**

Human motivation is the heart of the field of behavior. In nature motivation is described as "intrinsic" and "extrinsic" (Sansone, & Harackiewicz, 2000).

#### *1.4.1 Intrinsic Motivation*

Intrinsically motivated students are always deeply engage or involve in learning new and different things, have interest in studies or enjoyment in order to achieve own academic and personal goals or objectives (Afzal, Ali, Khan, & Hamid, 2012). Dev (1997) examined that, students who are intrinsically motivated, complete their task very well and very effectively and they do not need any type of reward to initiate them to achieve their goal. These types of students are more likely to complete their task efficiently and excited by the challenging nature of an activity. The students, who are intrinsically motivated, have tendency to use and apply those strategies, which require more determination. This may allow them to process information more effectively and passionately. Condry and Chambers (1978) illustrated that when intrinsically motivated students were challenged, with most diverse and problematic logical tasks, then they used more reasonable and logical strategies and decision-making approach instead of those students who were extrinsically motivated.

Deci and Ryan (1985) postulate that intrinsic motivation originates from internal psychological needs of competence, proficiency and self-determination. Research has revealed that there exist three types of intrinsic motivation: to know, to experience motivation and to complete things. Intrinsic motivation involve in many constructs like analysis, curiousness, learning goals, intrinsic intellectuality and at last intrinsic motivation to learn (Harter, 1981)(Gottfried A. W., 1985). Intrinsic motivation can be determined by knowing the interest of the students in their studies and through self-satisfaction. If the students have interest in their studies then they will be studying happily and enjoying their studies and must be motivated towards their career. Similarly, self-satisfaction is also important aspect of this type of motivation.

Intrinsic motivation level can be found by knowing the interest level of the students in their studies. Students with complete motivation are actually interested in learning new things. If they were interested in their studies, they would like to continue that work with complete attention and interest. On the other hand, the students who are studying those subjects or courses, which are asked by their family to study, those students show less motivation. Students with full attention are learning the subjects and exploring new ideas for their own sake.

Self-satisfaction level is measured to know the motivation level of the students. If student want to be motivated then he or she must be satisfied from the field of study. Intrinsic motivation is the most self-oriented motivation

factor that refers to perform something that is interested and satisfied (Deci and Ryan, 1985). Cognitive Evaluation Theory (CET) was proposed by Deci and Ryan (1985) to identify the aspects in social frameworks, which will produce variability in intrinsic motivation. CET is considered as sub-theory of Self-Determination theory (theory for extrinsic motivation), that includes interpersonal procedures and events (e.g. rewards, getting higher grades, competition and performance).

#### *1.4.2 Extrinsic Motivation*

Extrinsic motivation is a concept or construct that arises when any act or activity is done to obtain some considerable and distinguishable outcomes. Extrinsic motivation thus contrasts with intrinsic motivation, where student is motivated to do an activity or work for the sake of reward, rather than its instrumental value. Hwang, Echols, and Vrongistinos(2001) found in their researches that intrinsic motivation is not very well hold by the students (e.g. task goal orientation). Instead, students have a combination of intrinsic and extrinsic motivation (e.g. performance), future and social goals. Extrinsic motivation is to carry out an activity because it is mainly concern with incentives, rewards and consequences, linked with an activity.

According to Dev(1997) extrinsically motivated students are mainly involves in learning only for attaining a prize or reward or for avoiding the penalty and sentence. Lepper(1988) describes that extrinsic motivation includes obtaining rewards or prizes or avoid punishment external to action itself like results, signs or teacher agreement. A person, who is motivated extrinsically, wants to show high levels of creativity, innovations. Such motivated person takes risk very well (Shin & Zhou, 2003)

### **1.5 A Self Determination Theory**

Human learning is the most complex process and motivation is the one of the most important part of it (Sikhwari, 2004). Academic extrinsic motivation can be explained by context of Self-Determination Theory (SDT) of Deci and Ryan in 1985. SDT is an approach to human personality, motivation, interest, social improvement and development, and overall psychological functioning (Deci & Ryan, 2000). Moreover, it is a macro theory about human motivation factor; development and passion that needs interest and either facilitate or anticipate the growth and development processes in people (Niemic & Ryan, 2009, p. 134).

### **1.6 Career Maturity**

Career Maturity was introduces by Super (1957). This concept has been explored, measured and discussed, for over thirty years. Super is the father of this concept. He has been much dominant in the field of career development. Super's work was formulated in 1950's. His model was identified as "loosely unified set of theories" includes the concept of Career Maturity (CM), which has been the most important variable in development of the adolescence (Powell & Luzzo, 1998).

From the literature point of view, there is not literature before the Super's (1957) formulation of this construct. Super (1957) questioned the absence of vocational maturity, which is career maturity. The basic purpose of this construct was to recognize the personality and intellectual association of career maturity. If these two traits of career immature student differ from career mature student, then the immaturity at the early stage of the student can be identified and then it would be easy to prevent from deprived decision-making by implementing appropriate career management.

### **1.7 Development Theories**

Development theories focus on the human growth and development across life span. The aim of an individual is to master many development tasks during continuous stages of life so that he or she can become successful in life. For this purpose Super (1957) developed a Super's Development Theory which include Super's Model for Career Maturity. Career maturity during adolescence has been found to be interrelated with many significant variables, which are important in life. O'Hare (1990) found that super found the relationship between young career maturity and other career satisfaction, educational and occupational level and career success. Super defined his model of career maturity by the following dimensions:

#### *1.7.1 Planfulness*

Planfulness is the planning of the career at a very first stage. It is awareness that educational and vocational choices of selection must be made ultimately (Savickas , 2001)

#### *1.7.2 Exploration*

Exploration involves querying and use of resources and the participation (Betz, 1988). It includes inquiring oneself and the situation. Further, it includes a person emphasis on inquiring about oneself and one's situation (Super, 1984)

**1.7.3 Information**

The third dimension is the information in Super’s career maturity model. It involves the collection and dealing of the knowledge, which was gathered from the world of work, the preferred group and the other life-career roles.

**1.7.4 Decision Making**

This is the fourth dimension to measure the maturity level. It includes that individual must have personality traits that are important for the career development. This dimension is viewed as an intellectual or cognitive instead of any attitudinal component of career maturity (MacKenzie, 1996).

**2. RESEARCH METHODOLOGY**

In this research, data has been collected by both primary and secondary research. Primary data was collected through a questionnaire. While in order to build a comprehensive and complete background of this research, secondary material has been gathered from journals, online references and books. The purpose of this study is purely basic and not applied and type of investigation is correlational. Data is collected from different university students that represent the educational sector. In order to perform in-depth analysis following hypothesis were formed. Population of this study was university students. Questionnaire was handed over to 500 students while 334 filled and returned it back. So the response rate was 67%. Non-probability sampling technique i.e. Quota sampling technique was used. Both public and private university students were handed over the questionnaire so that each individual gets the equal chance of selection and following hypothesis are formulated for in-depth statistical analysis of the data. Fairly large number of students were targeted so that sample should be fair enough to apply any statistical analysis.

- Hypothesis 1:** Career Development Programs has a positive effect on attitude towards Academic Motivation.
- Hypothesis 2:** Career Development Programs has a positive effect on attitude towards Career Maturity.
- Hypothesis 3:** Attitude towards Academic Motivation has a positive effect on Attitude towards Career Maturity.
- Hypothesis 4:** Attitude toward Academic Motivation is positively affected by age.
- Hypothesis 5:** Attitude toward Career Maturity is positively affected by age.
- Hypothesis 6:** Attitude toward Academic Motivation is positively affected by Student Education.
- Hypothesis 7:** Attitude toward Career Maturity is positively affected by Student Education.
- Hypothesis 8:** Attitude toward Academic Motivation is positively affected by Specialization Area.
- Hypothesis 9:** Attitude toward Career Maturity is positively affected by Specialization Area
- Hypothesis 10:** Attitude toward Academic Motivation is positively affected by Gender.
- Hypothesis 11:** Attitude toward Career Maturity is positively affected by Gender

**3. RESULTS AND DISCUSSION**

All the questions in this study are close-ended which are measured through five-point Likert Scale. Statistical software IBM SPSS (version 19) is used to perform the statistical analysis on data.

**3.1 Reliability Analysis**

Reliability test is used to determine the consistency for the scale used in this research for all the items.

Table 1: shows the consistency for the scale

**Table 1: Reliability Analysis**

Variables	Reliability
Attitude towards CDP	90.6%
Attitude towards AM	75.9%
Attitude towards CM	88.7%
Whole Questionnaire	94.0%

**3.2 Demographic Analysis**

The demographic part contains gender, age, education, specialization.

Table 2: shows the frequency and percentages of these variables.

**Table 2: Demographic Analysis**

Category		Frequency	Percentage
<b>Gender</b>	Male	125	37.4
	Female	209	62.6
<b>Age</b>	16-19	21	6.3
	20-23	187	56
	24-27	117	35
	28-31	8	2.4
	more than 31	1	0.3
<b>Education</b>	Bachelors	166	49.7
	Masters/M.Phil	164	49.1
	Ph.D	4	1.2
<b>Specialization</b>	Finance	128	38.3
	Marketing	100	29.9
	HR	46	13.8
	IT	28	8.4
	Biochemistry	12	3.6
	Research and Assessment	13	3.9
	Others	7	2.1

Out of 334 total respondents, 125 are males, which is 37.4% of the whole sample size and 209 are females, which is 62.6% of the total sample size. 21 respondents belong to age group 16 – 19 years, which is 6.3% of the whole sample size, 187 respondents belong to age group 20 – 23 years, which is 56%, 117 respondents belong to age group 24 – 27 years, which is 35%, 8 respondents belong to age group 28 – 31 years, which is 2.4% and Only 1 respondent belongs to age group of more than 31 years, which is 0.3% of the whole sample. 166 respondents belong to education group of Bachelors, which is 49.7% of the whole sample size, 164 respondents belong to education group of Masters/M.Phil., which is 49.1%, 4 respondents belong to education group of Ph.D., which is 1.2% of the whole sample size. 128 respondents belong to specialization group of Finance, which is 38.3%, 100 respondents belong to specialization group of Marketing, which is 29.9%, 46 respondents belong to specialization group of Human Resource Management, which is 13.8%, 28 respondents belong to specialization group of Information Technology, which is 8.4%, 12 respondents belong to specialization group of Biochemistry, which is 3.6%, 13 respondents belong to specialization group of Research and Assessment, which is 3.9% and 7 respondents belong to other than all above described groups, which is 2.1% of the whole sample size.

### 3.3 Pearson Correlation Test

The test of Pearson Correlation is applied to find out the relationship between all three interval variables, i.e. Impact of Career Development Programs on Attitude towards Academic Motivation, Impact of Career Development Programs on Attitude towards Career Maturity, Impact of Attitude towards Academic Motivation on Attitude towards Career Maturity.

Table 3: shows the values of correlation.

**Table3: Pearson Correlation**

Category	Correlation
CDP & Academic Motivation	.705
CDP & Career Maturity	.756
Academic Motivation & Career Maturity	.705

The relationship between CDP and AM is found to be strong. Correlation value of .705 between CDP and AM shows the strong positive relationship. Correlation value of .756 between CDP and CM shows the strong positive relationship. Correlation value of .705 between AM and CM also shows the strong positive relationship.

### 3.4 Linear Regression

Linear regression test is also conducted to analyze the relationship between all three-interval variables.

Table 4: shows the values

**Table 4: Linear Regression Test**

Category	R Square	P-Value	Standardized Coefficients	
			(Constant)	Beta
CDP	0.496	.000 <sup>a</sup>	2.018	2.018
Academic Motivation	0.572	.000 <sup>a</sup>	1.461	1.461
Career Maturity	0.498	.000 <sup>a</sup>	0.88	0.88
<b>Regression Equation between</b>	<b>Value</b>			
CDP & Academic Motivation	4.42			
CDP & Career Maturity	4.23			
Academic Motivation & Career Maturity	4.81			

0.496 value of r-square for academic motivation shows that 49.6% of the variation in academic motivation can be explained as an effect of the variation in the career development programs. 0.572 value of r-square for career maturity shows that 57.2% of the variation in career maturity can be explained as an effect of the variation in the career development programs. 0.498 value of r-square for career maturity shows that 49.8% of the variation in career maturity can be explained as an effect of the variation in academic motivation. In this report career development program is independent variable; academic motivation and career maturity are dependent variables.

### 3.5 Independent Sample T Test

Independent sample T Test is used to analyze the results of the variable, which are gender based. Hypothesis 10 and 11 from Table 1 are under the T Test.

Table 5: shows the values

**Table 5: Independent Sample T Test**

Variables	Equal Variance Assumed		Equal Variances Not Assumed	
	T	Sig. (2-tailed)	T	Sig. (2-tailed)
Gender on Motivation	1.017	.310	1.026	.306
Gender on Career Maturity	1.765	.078	1.758	.080

Table 6 contains a p-value greater than 0.05 for gender, which stated that gender has no effect on academic motivation and career maturity.

### 3.6 One-way ANOVA

One-way analysis of variance (ANOVA) is also used to check the impact of age, students' education and specialization on academic motivation and career maturity.

Table 6: shows the values of ANOVA test.

**Table 6: One-way ANOVA**

Category	Sig Level for AM	Significance Level of CM
Age	0.000	0.000
Students' Education	0.000	0.000
Specialization	0.034	0.002

The all values of significance level are less than 0.05, which states that age, education and specialization has positive impact on academic motivation and career maturity.

Pearson correlation analysis shows that when students attend more career development programs they are highly motivated and career matured. So there is positive relation between them. Moreover, motivation has also positive impact on career maturity. Greater the students are motivated more they will be career matured. The demographic variables i.e. age, current education and specialization have positive relationship with academic motivation and career maturity except gender. As well as the age and student's current education increases, similarly in the same way, the academic motivation and career maturity also enhances. Specialization has also positive relationship in such a way that more the students are from business subjects more they would be motivated and career matured. ANOVA test is used to show the relationship of these three variables with academic motivation and career maturity. Gender relationship was found with the help of independent T Test. The test showed that academic motivation and career maturity is not affected by student's gender, either male or female. So it shows that male and female both have knowledge about career development programs and they know that how much important is the career awareness for their better future and good social life.

## REFERENCES

1. Afzal, H., Ali, I., Khan, M. A., & Hamid, K. (2012, July). A Study of University Students' Motivation and Its Relationship with Their Academic Performance. *International Journal of Business and Management*, 7(13), 80-88.
2. Ames, C. (1992). Classrooms: Goals, structures and student motivation. *Journal of Educational Psychology*, 84(3), 262-271.
3. Anderman, E. M., & Midgley, C. (1997., March). Changes in achievement goal orientations after the transition to middle school. *Society for Research on Adolescence*, 269–298.
4. Anderman, L. H., & Midgley, C. (1997.). Motivation and middle school students. In J. L. Irvin, *What current research says to the middle level practitioner* (pp. 41-48). Columbus,, United State of Ohio: National Middle School Association.
5. Bernard-Phera, M. J. (2000). *The Relationship between Career Maturity and Career Decision-making Self-efficacy Expectations among Disadvantaged Learners*. Rand Afrikaans University. Johannesburg:: Unpublished M.A. dissertation.
6. Betz, N. E. (1988). The assessment of career development and Maturity. In W. B. Walsh, & S. H. Osipow, *Advances in the assessment of Career decision making* (pp. 77-136). Hillsdale, New Jersey: Lawrence Erlbaum.
7. Betz, N. E., Fitzgerald, L. F., & Hill, R. E. (1989). *Trait-factor theories: Traditional cornerstone of career theory. Handbook of career theory*. New York: Cambridge University Press.
8. Chodzinski, R. T., & Randhawa, B. S. (1983). Validity of the Career Maturity Inventory. *Educational and Psychological Measurement*, 43, 1163 – 1173.
9. Clark, M. H., & Schroth, C. A. (2010). Examining relationships between academic motivation and personality among college students. *Learning and Individual Differences*, 20, 19-24.
10. Condry, J., & Chambers, J. (1978). Intrinsic Motivation and the Process of Learning. In M. R. Lepper , D. Greene, M. R. Lepper, & D. Greene (Eds.), *Hidden Costs of Reward: new perspectives on the psychology of human motivation* (pp. 61-84). New Jersey: Lawrence Erlbaum Associates,.
11. Crites, J. O. (1973). *Career Maturity Inventory* (Vol. 1). CA: McGraw-Hill/CTB.
12. Crites, J. O. (1981). *Career Counselling: Models, Methods, and Materials*. New York:: McGraw-Hill.
13. Deci and Ryan. (1985). *Intrinsic motivation and self-determination*. New York: Plenum.
14. Deci and Ryan. (2001). *Mnyandu*.
15. Deci, E. (1975). *Intrinsic motivation*. New York:: Plenum Press.
16. Deci, E. L. (1975). *Intrinsic motivation*. New York: Plenum.
17. Deci, E. L., & Ryan, R. M. (2000). The "what" and "why" of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, 11(4), 227–268.
18. Deci, E. L., & Ryan, R. M. (2002). Overview of self-determination theory: An organismic dialectical perspective. In E. L. Deci, R. M. Ryan, & (Eds.), *Handbook of self-determination research*. (pp. 3–33). Rochester, NY: University of Rochester Press.
19. Dev, P. C. (1997). Intrinsic motivation and academic achievement: What does their relationship imply for the classroom teacher? *Remedial and Special Education*, 18(1), 12-19.
20. Dykeman, C. (2003). *Career Development Interventions and Academic Self-Efficacy and Motivation: A Pilot Study*. Minneapolis, United States: National Dissemination Center for Career and Technical Education.
21. Elliott, A. J., & Dweck, C. S. (2005). *Handbook of competence and motivation*. New York:: Guilford Press.
22. Frade, N. (2003.). *The effects of test interpretation style and the status of tests in career counselling*. Johannesburg: Rand Afrikaans University.
23. Gottfried, A. W. (1985). Measures of socioeconomic status in child development research: Data and recommendations. *Merrill-Palmer Quarterly*, 31, 85-92.
24. Graef, M. I., Wells, D. L., Hyland, A. M., & Muchinsky, P. M. (1985). Life antecedents of vocational indecision. *Journal of Vocational Behaviour*, 27, 276 – 297.
25. Gray, K. C. (2000). *Getting real: Helping teens find their future*. Thousand Oaks. CA: Corwin.
26. Guthrie, W. R., & Herman, A. I. (1982). Vocational maturity and its relationship to Holland's theory of vocational choice. *Journal of Vocational Behaviour*, 21(2), 196 -205.
27. Harter. (1981). A New Self-Report Scale of Intrinsic Versus Extrinsic Orientation in the Classroom: Motivational and Informational Components. *Developmental Psychology*, 17, 300-312.

28. Hartman, W. (1988). *Aspects of Career Orientation Among Urban Black Students*. Randse Afrikaanse University. Johannesburg: Unpublished M.A. dissertation.
29. Herr, E. L. (2001). Career development and its practise: A historical perspective. *Career Development Quarterly*, 3, 1-16.
30. Hwang, Y. S., Echols, C., & Vrongistinos, K. (2001). Multidimensional academic motivation of high achieving African American students. *College Student Journal*, 36(4), 544-554.
31. Legum, H. L., & Hoare, C. H. (2004). Impact of a Career Intervention on At-Risk Middle School Students' Career Maturity Levels, Academic Achievement, and Self-Esteem. *Professional School Counselling*, 8(2).
32. Lepper, M. R. (1988). Motivational Considerations in the Study of Instruction. *Cognition and Instruction*, 5(4), 289-309.
33. MacKenzie, S. J. (1996). *The Impact of the South African Post-matric Programmes on Career Maturity and Self-efficacy*. Rand. Johannesburg: Unpublished M.A. dissertation.
34. Maehr, M. L., & Midgley, C. (1991). Restructuring the school environment to enhance student motivation and learning. *American Educational Research Association Annual Meeting*, 399-427.
35. Meece, J. L., Anderman, E. M., & Anderman, L. H. (2006). Classroom goal structures, student motivation, and academic achievement. *Annual Review of Psychology*, 57, 487-503.
36. Mnyandu, P. T. (November, 2001). The relations between self-determination, achievement motivation and academic achievement. Pretoria, Gauteng, South Africa: Unpublished MA-dissertation.
37. Niemiec, C., & Ryan, C. (2009). Autonomy, competence, and relatedness in the classroom. *Theory and Research in Education*, 7, 133-144.
38. O'Hare, P. A. (1990). *The psychometric properties of the Career Development Questionnaire*. Rand Afrikaans University. Johannesburg: Unpublished M.A. dissertation.
39. Palmer, D. (2007). What Is the Best Way to Motivate Students in Science? *Teaching Science-The Journal of the Australian Science Teachers Association*, 53(1), 38-42.
40. Powell, D. F., & Luzzo, D. A. (1998). Evaluating factors associated with the career maturity of high school students. *The Career Development Quarterly*, 47, 145-158.
41. Quinn, S. (1992). *The Effect of a Career Development Programme*. Rand Afrikaans University. Johannesburg: Unpublished M.A. dissertation.
42. Rothman, E. T. (1994). *Intervention research: Design and development for human service*. New York: The Haworth Press, Inc.
43. Ryan Richard and Deci Edward. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, 25, 58.
44. Ryan Richard and Deci Edward. (2000). Intrinsic and Extrinsic Motivations: Classic Definitions and New Directions. *Contemporary Educational Psychology*, 54-67.
45. Sansone, C., & Harackiewicz, J. M. (2000). *Intrinsic and extrinsic motivation: The search for optimal motivation and performance*. San Diego: Academic Press.
46. Savickas, M. L. (2001). A Developmental Perspective on Vocational Behaviour: Career Patterns, Salience, and Themes. *International Journal for Educational and Vocational Guidance*, 1, 49 - 57.
47. Shin, S. J., & Zhou, J. (2003). Transformational Leadership, conservation and creativity: Evident from Korea. *Acad. Manage.*, 46(4), 703-714.
48. Sikhwari, T. D. (2004). *The relationship between affective factors and the academic achievement of students at the University of Venda*. Pretoria: Unisa: Unpublished MEd-dissertation.
49. Super, D. E. (1957). *The psychology of careers*. New York: Harper & Row.
50. Super, D. E. (1984). Career and life development. In D. Brown, L. Brooks, & (Eds.), *Career choice and development*. San Francisco: Jossey-Bass.
51. Tonder, V. (1988). *Persoonliksheidbeeld, akademiese prestasie en studiehoudingsfaktor by beroepsvolwassenheid*. Rand Afrikaans University. Johannesburg: Unpublished Master's Thesis.
52. Watson, M. B., Stead, G. B., & De Jager, A. (1995). The career development of black and white South African university students. *International Journal for the Advancement of Counselling*, 18, 39 - 47.
53. Zunker, V. J. (2002). *Career counseling: Applied concepts of life planning*. (6th, Ed.) California: Brooks/Cole.