

A Study on Relationship between Self Efficacy and Flow at Work among Young Adults

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ABSTRACT

The current investigation studies the relationship between Self Efficacy and Flow among Young Adults. Only Csíkszentmihályi seems to have published suggestions for extrinsic applications of the flow concept, such as design methods for playgrounds to elicit the flow experience. Other practitioners of Csíkszentmihályi's flow concept focus on intrinsic applications, such as spirituality, performance improvement, or self-help. His work has also informed the measurement of donor momentum by The New Science of Philanthropy. Psychologist Albert Bandura has defined self-efficacy as one's belief in one's ability to succeed in specific situations or accomplish a task. One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges. The theory of self-efficacy lies at the center of Bandura's social cognitive theory, which emphasizes the role of observational learning and social experience in the development of personality. Based on the review of literature, It is expected that there is a relationship between self efficacy and flow among young adults and it is expected that there self efficacy and flow is different in males and females. The sample comprised of 40 college students randomly selected from Panjab University, Chandigarh belonging to Statistics Departments. They were of 18-21 years of age. Purposive Random sampling method was used for selection of the sample. Generalized Self Efficacy Scale (GSE) by Schwarzer, R., & Jerusalem, M.(1995) and Flow Short Scale by Rheinberg, Vollmeyer, and Engeser (2003; cf. Engeser & Rheinberg, 2008) were used to carry out the investigation. Mean and Standard Deviation(SD) was calculated in addition to correlation and t ratio.

Keywords: *Self Efficacy, Flow, Bandura Social Cognitive theory*

Perceived self-efficacy is defined as people's beliefs about their capabilities to produce designated levels of performance that exercise influence over events that affect their lives. Self-efficacy beliefs determine how people feel, think, motivate themselves and behave. Such beliefs produce these diverse effects through four major processes. They include cognitive, motivational, affective and selection processes. A strong sense of efficacy enhances human

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accomplishment and personal well-being in many ways. People with high assurance in their capabilities approach difficult tasks as challenges to be mastered rather than as threats to be avoided. Such an efficacious outlook fosters intrinsic interest and deep engrossment in activities. They set themselves challenging goals and maintain strong commitment to them. They heighten and sustain their efforts in the face of failure. They quickly recover their sense of efficacy after failures or setbacks. They attribute failure to insufficient effort or deficient knowledge and skills which are acquirable. They approach threatening situations with assurance that they can exercise control over them. Such efficacious outlook produces personal accomplishments, reduces stress and lowers vulnerability to depression.

Self-efficacy is the extent or strength of one's belief in one's own ability to complete tasks and reach goals. Psychologists have studied self-efficacy from several perspectives, noting various paths in the development of self-efficacy; the dynamics of self-efficacy, and lack thereof, in many different settings; interactions between self-efficacy and self-concept; and habits of attribution that contribute to, or detract from, self-efficacy.

This can be seen as the ability to persist and a person's ability to succeed with a task. Self-efficacy affects every area of human endeavor. By determining the beliefs a person holds regarding his or her power to affect situations, it strongly influences both the power a person actually has to face challenges competently and the choices a person is most likely to make. These effects are particularly apparent, and compelling, with regard to behaviors affecting health.

Judge et al. (2002) argued the concepts of locus of control, neuroticism, generalized self-efficacy (which differs from Bandura's theory of self-efficacy) and self-esteem measured the same, single factor and demonstrated them to be related concepts.

Theoretical Approaches

- 1. Social cognitive theory:** Psychologist Albert Bandura has defined self-efficacy as one's belief in one's ability to succeed in specific situations or accomplish a task. One's sense of self-efficacy can play a major role in how one approaches goals, tasks, and challenges. The theory of self-efficacy lies at the center of Bandura's social cognitive theory, which emphasizes the role of observational learning and social experience in the development of personality. The main concept in social cognitive theory is that an individual's actions and reactions, including social behaviors and cognitive processes, in almost every situation are influenced by the actions that individual has observed in others. Because self-efficacy is developed from external experiences and self-perception and is influential in determining the outcome of many events, it is an important aspect of social cognitive theory. Self-efficacy represents the personal perception of external social factors. According to Bandura's theory, people with high self-efficacy—that is, those who believe they can perform well—are more likely to view difficult tasks as something to be mastered rather than something to be avoided.

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- 2. Social learning theory:** Social learning theory describes the acquisition of skills that are developed exclusively or primarily within a social group. Social learning depends on how individuals either succeed or fail at dynamic interactions within groups, and promotes the development of individual emotional and practical skills as well as accurate perception of self and acceptance of others. According to this theory, people learn from one another through observation, imitation, and modeling. Self-efficacy reflects an individual's understanding of what skills he/she can offer in a group setting.
- 3. Self-concept theory:** Self-concept theory seeks to explain how people perceive and interpret their own existence from clues they receive from external sources, focusing on how these impressions are organized and how they are active throughout life. Successes and failures are closely related to the ways in which people have learned to view themselves and their relationships with others. This theory describes self-concept as learned (i.e., not present at birth); organized (in the way it is applied to the self); and dynamic (i.e., ever-changing, and not fixed at a certain age).
- 4. Attribution theory:** Attribution theory focuses on how people attribute events and how those beliefs interact with self-perception. Attribution theory defines three major elements of cause: Locus is the location of the perceived cause. If the locus is internal (dispositional), feelings of self-esteem and self-efficacy will be enhanced by success and diminished by failure.

Stability describes whether the cause is perceived as static or dynamic over time. It is closely related to expectations and goals, in that when people attribute their failures to stable factors such as the difficulty of a task, they will expect to fail in that task in the future.

Factors affecting self-efficacy

Bandura identifies four factors affecting self-efficacy.

- 1. Experience or "Enactive Attainment":** The experience of mastery is the most important factor determining a person's self-efficacy. Success raises self-efficacy, while failure lowers it.
"Children cannot be fooled by empty praise and condescending encouragement. They may have to accept artificial bolstering of their self-esteem in lieu of something better, but what I call their accruing ego identity gains real strength only from wholehearted and consistent recognition of real accomplishment, that is, achievement that has meaning in their culture." (Erik Erikson)
- 2. Modeling, or "Vicarious Experience":** Modeling is experienced as, "If they can do it, I can do it as well." When we see someone succeeding, our own self-efficacy increases; where we see people failing, our self-efficacy decreases. This process is most effectual when we see ourselves as similar to the model. Although not as influential as direct experience, modeling is particularly useful for people who are particularly unsure of themselves.
- 3. Social Persuasion:** Social persuasion generally manifests as direct encouragement or discouragement from another person. Discouragement is generally more effective at decreasing a person's self-efficacy than encouragement is at increasing it.

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- 4. Physiological Factors:** In stressful situations, people commonly exhibit signs of distress: shakes, aches and pains, fatigue, fear, nausea, etc. Perceptions of these responses in oneself can markedly alter self-efficacy. Getting 'butterflies in the stomach' before public speaking will be interpreted by someone with low self-efficacy as a sign of inability, thus decreasing self-efficacy further, where high self-efficacy would lead to interpreting such physiological signs as normal and unrelated to ability. It is one's belief in the implications of physiological response that alters self-efficacy, rather than the physiological response itself.
- 5. Genetic and environmental determinants:** In a Norwegian twin study, the heritability of self-efficacy in adolescents was estimated at 75 percent. The remaining variance, 25 percent, was due to environmental influences not shared between family members. The shared family environment did not contribute to individual differences in self-efficacy.

Flow

In positive psychology, flow also known as **the zone**, is the mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by complete absorption in what one does. Named by Mihály Csíkszentmihályi, the concept has been widely referenced across a variety of though has existed for thousands of years under other guises, notably in some Eastern religions. Achieving flow is often colloquially referred to as being in the zone.

According to Csíkszentmihályi, flow is completely focused motivation. It is a single-minded immersion and represents perhaps the ultimate experience in harnessing the emotions in the service of performing and learning. In flow, the emotions are not just contained and channeled, but positive, energized, and aligned with the task at hand. The hallmark of flow is a feeling of spontaneous joy, even rapture, while performing a task, although flow is also described (below) as a deep focus on nothing but the activity – not even oneself or one's emotions.

Flow has many of the same characteristics as (the positive aspects of) hyper focus. Some examples include spending "too much" time playing video games or getting side-tracked and pleasurablely absorbed by one aspect of an assignment or task to the detriment of the overall assignment.

Components

Jeanne Nakamura and Csíkszentmihályi identify the following six factors as encompassing an experience of flow:

1. Intense and focused concentration on the present moment
2. Merging of action and awareness
3. A loss of reflective self-consciousness
4. A sense of personal control or agency over the situation or activity

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5. A distortion of temporal experience, one's subjective experience of time is altered
6. Experience of the activity as intrinsically rewarding, also referred to as auto telic experience

Those aspects can appear independently of each other, but only in combination do they constitute a so-called flow experience. Additionally, psychology expert, Kendra Cherry, has mentioned three other components that Csíkszentmihályi lists as being a part of the flow experience:

1. "Immediate feedback"
2. Feeling that you have the potential to succeed
3. Feeling so engrossed in the experience, that other needs become negligible

History/background of Flow

Mihaly Csikszentmihályi and his fellow researchers began researching flow after Csikszentmihályi became fascinated by artists who would essentially get lost in their work. Artists, especially painters, got so immersed in their work that they would disregard their need for food, water and even sleep. Thus, the origin of research on the theory of flow came about when Csikszentmihályi tried to understand this phenomenon experienced by these artists. Flow research became prevalent in the 1980s and 1990s, with Csikszentmihályi and his colleagues in Italy still at the forefront. Researchers interested in optimal experiences and emphasizing positive experiences, especially in places such as schools and the business world, also began studying the theory of flow at this time. The theory of flow was greatly used in the theories of Maslow and Rogers in their development of the humanistic tradition of psychology.

Flow has been experienced throughout history and across cultures. The teachings of Buddhism and of Taoism speak of a state of mind known as the "action of inaction" or "doing without doing" (wu wei in Taoism) that greatly resembles the idea of flow. Also, Hindu texts on Advaita philosophy such as Ashtavakra Gita and the Yoga of Knowledge such as Bhagavad-Gita refer to a similar state.

Mechanism

In every given moment, there is a great deal of information made available to each individual. Psychologists have found that one's mind can attend to only a certain amount of information at a time. According to Csikszentmihályi's 2004 TED talk, that number is about "110 bits of information per second". That may seem like a lot of information, but simple daily tasks take quite a lot of information. Just decoding speech takes about 60 bits of information per second. That is why when having a conversation one cannot focus as much attention on other things. For the most part (except for basic bodily feelings like hunger and pain, which are innate), people are able to decide what they want to focus their attention on. However, when one is in the flow state, they are completely engrossed with the one task at hand and, without making the conscious decision to do so, lose awareness of all other things: time, people, distractions,

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and even basic bodily needs. This occurs because all of the attention of the person in the flow state is on the task at hand; there is no more attention to be allocated.

The flow state has been described by Csikszentmihályi as the “optimal experience” in that one gets to a level of high gratification from the experience. Achieving this experience is considered to be personal and "depends on the ability" of the individual. However, the overall feeling of being in the state of flow is said to be congruent for everyone since they are all experiencing some form of the previously mentioned conditions of flow. One’s capacity and desire to overcome challenges in order to achieve their ultimate goals not only leads to the optimal experience, but also to a sense of life satisfaction overall.

Definitions

1. “The best moments in our lives are not the passive, receptive, relaxing times... The best moments usually occur if a person’s body or mind is stretched to its limits in a voluntary effort to accomplish something difficult and worthwhile.” ~ Mihaly Csikszentmihalyi (1990, p. 3)
2. In positive psychology, flow, also known as the zone, is the mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. ~ Kendry et al.(1986)

REVIEW OF LITERATURE

According to self-efficacy theory, an individual’s behavior is predicted by the beliefs they hold about their capabilities, rather than their actual capabilities. Bandura argues that individual’s level of ‘motivation, affective states, and actions are based more on what they believe than on what is objectively true’ (Bandura, 1997, p. 2).

Self-efficacy judgments with respect to some specific tasks such as anxiety may elicit some emotional reactions in terms of their ability to perform such tasks, which in turn, influence their emotional states. Computer use and Computer self-efficacy should be directly related since we are more likely to attempt and persist in behaviors that we feel capable of performing. Confidence or autonomy competence in self-efficacy is considered as one important factor that enhances the flow of intrinsic motivation because learners are given a sense of control over choices they may take in learning (Ryan & Deci, 2000). Quinn (2005) argues that flow is the merging of action and awareness and the other dimensions form the antecedents and consequences of the engagement experience.

In this sense, *the computer self-efficacy might positively affect the flow experience*, then, the research hypothesis is: Hypothesis states: Computer self-efficacy will be positively related to flow state. Psychologists have classified general anxiety into two areas. One domain is trait anxiety, and the other is state anxiety (Biggs & Moore, 1993). Trait anxiety can be described as “a general readiness to react with anxiety in many situations” (Biggs & Moore, 1993, p. 243). State anxiety refers to “anxiety actually experienced in a particular situation” (Biggs & Moore, 1993, p.243). Competitive anxiety was viewed as negative and predicted to have

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debilitative consequences for performance (Jones, 1995). In game-playing, players have a tendency to perceive competitive situations as threatening will respond to these situations with competitive state anxiety (Scanlan, 1978).

Findings revealed

Using the factor constructs of computer self-efficacy, game competitive anxiety and flow state, the study explores whether different individuals of college students have different flow states during learning from game.

Regarding research hypothesis1: Computer self-efficacy will be positively related to flow state, the findings of the study are: (1) The study's Hypothesis 1, supposing that computer self-efficacy has significant positive relationship with flow experience, has been supported. It implies that when college students have stronger feeling of computer self-efficacy, their flow experience will be raised. This conclusion is consistent with the viewpoint of the abovementioned scholars, proving the significance of computer self-efficacy to the entry to Flow state. According to Ryan and Deci (2000) assertion, self-efficacy is a kind of intrinsic motivation while engaging in a game, one will have positive flow state The result is also supported by Zhao and her colleagues' (2011) study on the relation between the internet self-efficacy and flow experience, and found they have positively association.

The objective of this study was to extend the channel model of flow (Csikszentmihalyi, 1975, 1990) by including self-efficacy as predictor of the challenges-skills combination, and of the flow experience itself, based on the predictions of social cognitive theory (Bandura, 1997, 2001). We conducted a two-wave longitudinal study among 258 secondary school teachers. Results, first, showed that the channel model of flow, including self-efficacy as antecedent of flow, fitted better the data. Secondly, it was observed that the more self-efficacy the more flow frequency and higher levels of challenge and skills which, in turn, predicted flow over time. Moreover, the influence of self-efficacy on flow over time was mediated by subjects' perception of the challenges and skills combination.

OVERVIEW

Purpose of the Research

Only Csikszentmihalyi seems to have published suggestions for extrinsic applications of the flow concept, such as design methods for playgrounds to elicit the flow experience. Other practitioners of Csikszentmihalyi's flow concept focus on intrinsic applications, such as spirituality, performance improvement, or self-help. His work has also informed the measurement of donor momentum by The New Science of Philanthropy.

Education

In education, the concept of over learning plays a role in a student's ability to achieve flow. Csikszentmihalyi states that over learning enables the mind to concentrate on visualizing the desired performance as a singular, integrated action instead of a set of actions. Challenging assignments that (slightly) stretch one's skills lead to flow. In the 1950s British cybernetic an

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Gordon Pask designed an adaptive teaching machine called SAKI, an early example of 'e-learning'. The machine is discussed in some detail in Stafford Beer's book "Cybernetics and Management". In the patent application for SAKI (1956), Pask's comments indicate an awareness of the pedagogical importance of balancing student competence with didactic challenge, which is quite consistent with flow theory: the skill becomes too easy to perform and the operator again tends to become bored.

Around 2000, it came to the attention of Csíkszentmihályi that the principles and practices of the Montessori Method of education seemed to purposefully set up continuous flow opportunities and experiences for students. Csíkszentmihályi and psychologist Kevin Rathunde embarked on a multi-year study of student experiences in Montessori settings and traditional educational settings. The research supported observations that students achieved flow experiences more frequently in Montessori settings.

Music

Musicians, especially improvisational soloists, may experience a similar state of mind while playing their instrument. Research has shown that performers in a flow state have a heightened quality of performance as opposed to when they are not in a flow state. In a study performed with professional classical pianists who played piano pieces several times to induce a flow state, a significant relationship was found between the flow state of the pianist and the pianist's heart rate, blood pressure, and major facial muscles. As the pianist entered the flow state, heart rate and blood pressure decreased and the major facial muscles relaxed. This study further emphasized that flow is a state of effortless attention. In spite of the effortless attention and overall relaxation of the body, the performance of the pianist during the flow state improved. Groups of drummers experience a state of flow when they sense a collective energy that drives the beat, something they refer to as getting into the groove or entrainment. Bass guitarists often describe a state of flow when properly playing between the percussion and melody as being in the pocket.

Sports

Flow may occur in challenging sports such as Eventing. The concept of being in the zone during an athletic performance fits within Csíkszentmihályi's description of the flow experience, and theories and applications of being in the zone and its relationship with athletic competitive advantage are topics studied in the field of sport psychology.

Religion and spirituality

Csíkszentmihályi may have been the first to describe this concept in Western psychology, he was most certainly not the first to quantify the concept of flow or develop applications based on the concept. For millennia, practitioners of Eastern religions such as Hinduism, Buddhism, Taoism and later in Sufism have honed the discipline of overcoming the duality of self and object as a central feature of spiritual development. Eastern spiritual practitioners have developed a very thorough and holistic set of theories around overcoming duality of self and object, tested and refined through spiritual practice instead of the systematic rigor and

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controls of modern science. Csíkszentmihályi's flow concept relates to the idea of being at one with things or as psychology expert, Kendra Cherry, describes it: "complete immersion in an activity." Practitioners of the varied schools of Zen Buddhism apply concepts similar to flow to aid their mastery of art forms, including, in the case of Japanese Zen Buddhism, Aikido, Cheng Hsin, Judo, Honkyoku, Kendo and Ikebana. In yogic traditions such as Raja Yoga reference is made to a state of flow in the practice of Samyama, a psychological absorption in the object of meditation. Theravada Buddhism refers to "access concentration," which is a state of flow achieved through meditation and used to further strengthen concentration into jhana, and/or to develop insight. In Islam the first mental state that precedes human action is known as al-khatir. In this state an image or thought is born in the mind.

Flow in games has been linked to the Laws of Learning as part of the explanation for why learning games (the use of games to introduce material, improve understanding, or increase retention) have the potential to be effective. In particular, flow is intrinsically motivating, which is part of the Law of Readiness. The condition of feedback, required for flow, is associated with the feedback aspects of the Law of Exercise. This is exhibited in well designed games, in particular, where players perform at the edge of their competency as they are guided by clear goals and feedback. The positive emotions associated with flow are associated with the Law of Effect. The intense experiences of being in a state of flow are directly associated with the Law of Intensity. Thus, the experience of gaming can be so engaging and motivating as it meets many of the Laws of Learning, which are inextricably connected to creating flow.

Research on self-efficacy beliefs in academic settings is thriving (Graham & Weiner, 1996), and the empirical connection between self-efficacy and other motivation constructs, academic performances, and achievement has by now been reasonably secured. Having traced the road that self-efficacy research has traveled during these past 20 years and the problems it has encountered along the way, it may now be useful to draw on past results and theoretical insights in order to offer some suggestions that may guide subsequent research and practice. Hopefully, these suggestions will help self-efficacy theorists chart new directions and adopt research strategies that will provide practical, relevant, and theoretical insights.

Statement of the Problem

The current studies investigate the relationship between Personal resources (Self Efficacy) and Flow among young adults.

Hypotheses

Based on the review of literature, following hypotheses have been proposed:

1. It is expected that there is a relationship between self efficacy and flow among young adults
2. It is expected that there self efficacy and flow is different in males and females.

METHODOLOGY

Sample

The sample comprised of 40 college students randomly selected from Panjab University, Chandigarh belonging to Statistics Departments. They were of 18-21 years of age. Purposive Random sampling method was used for selection of the sample.

Procedure

Tests and Tools Used:

The following standardized tests and tools were used:

- 1. Generalized Self Efficacy Scale (GSE) by Schwarzer, R., & Jerusalem, M.(1995):**
The GSE is a 10-item scale designed to assess optimistic self-beliefs used to cope with a variety of demands in life. The scale was designed to assess self efficacy, i.e., the belief that one's actions are responsible for successful outcomes. The scaled score for each question ranges from 1 to 4. Higher scores indicate stronger patient's belief in self-efficacy. The scale was originally developed by Jerusalem and Schwarzer in 1981 in Germany and has been translated into many languages. Studies have shown that the GSE has high reliability, stability, and construct validity (Leganger et al. 2000; Schwarzer, Mueller, & Greenglass 1999). The scale was found to be configurally equivalent across 28 nations, and it forms only one global dimension (Leganger et al 2000. Scholz et al. 2002). Cronbach alpha ranges from 0.75 to 0.94 across a number of different language versions (Rimm and Jerusalem 1999; Luszczynska et al. 2005). Relations between the GSE and other social cognitive variables (intention, implementation of intentions, outcome expectations, and self-regulation) are high and confirm the validity of the scale (Luszczynska et al. 2005).
- 2. Flow Short Scale by Rheinberg, Vollmeyer, and Engeser (2003; cf. Engeser & Rheinberg, 2008):** This consisted of 13 items. Items 1–10 measure the components of flow experience. The items 11, 12, and 13 measure the perceived importance or perceived outcome importance (cf. Abuhamdeh, Chap. 6 of this volume). The flow items could be separated into two factors: (1) fluency of performance (items 2, 4, 5, 7, 8, 9) and (2) absorption by activity (items 1, 3, 6, 10). With the additional items, demand, skills, and the perceived fit of demands and skills are measured (cf. Keller and Landhäußer).

Time Taken

It took a day to carry out an investigation. Each subject took 15 minutes to fill up the two questionnaires.

Instructions

The following instructions were given:

- 1. Generalized Self Efficacy Scale:** “Below are ten statements about yourself which may or may not be true. Using the 1-4 scale below, please indicate your agreement with each item by placing the appropriate number on the line following that item. Please be open and honest in your responding.”

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- Flow Scale: “Below are thirteen statements about yourself which may or may not be true. Using the 1-7 ratings scale below, which ranges from Not at all to Very much? Please indicate your agreement with each item by placing the appropriate number on the line following that item. Please be open and honest in your responding.”

RESULTS AND DISCUSSION

Statistical Analysis Applied

Mean and Standard Deviation (SD) was calculated in addition to correlation and t ratio.

Table 1: Represents descriptive statistics viz. Means and Standard Deviation and t ratio of the study variables.(n=40)

Table 1: Showing Means and S.D and t ratio of Self Efficacy and Flow among Youth. (N=40)

Variables	Males(n=20)		Females (n=20)		t ratio
	Mean	SD	Mean	SD	
Self Efficacy	41.9	4.54	37.35	7.51	2.68**
Flow	134.25	10.38	132.95	13.29	6.28**

*t ratio significant at 0.05 level= 2.021

**t ratio significant at 0.01 level= 2.704

Table 2: Shows the inter correlation matrix between Self Efficacy and Flow in males. (n=20)

Table 2: Showing correlation between Self Efficacy and Flow in males. (n=20)

Self Efficacy	Flow
	.68**

*correlation value significant at 0.05= .423, **correlation value significant at 0.01= .537

Table 3: Shows the inter correlation matrix between Self Efficacy and Flow in females. (n=20)

Table 3: Showing correlation between Self Efficacy and Flow in females. (n=20)

Self Efficacy	Flow
	.59**

*correlation value significant at 0.05=.423 , **correlation value significant at 0.01=.537

Table 4: Shows the inter correlation matrix between Self Efficacy and Flow among the total sample. (n=40)

Table 4: Showing correlation between Self Efficacy and Flow among the Total Sample. (n=40)

Self Efficacy	Flow
	.312**

*correlation value significant at 0.05= .304, **correlation value significant at 0.01= .393

DISCUSSION

Since the aim of this study was to investigate the relationship between self-efficacy and Flow among the youth the scores on self-efficacy and on Flow were correlated and the result is presented in tabular form. The analysis of the data shows that there is a correlation between self efficacy and Flow. These results are consistent with previous researches which document that there is a highly significant positive relationship between the two variables. Past researches also strongly relate self-efficacy to motivation to learn. These studies confirm educator's notion that self belief of student's capabilities is a determinant of their flow. Another study confirms that students with a higher level of self-efficacy are more successful at accomplishing their tasks and academically display better achievements. Accordingly, self-efficacy beliefs are —cruciall when applied to the cognitive demands of higher education. As teachers, we can clearly relate student's perceived self efficacy in being at flow. This high self efficacy will result in high level of energy put in the task. Although previous researches do show a significant difference in the level of self efficacy of respondents with respect to their gender, they also identify that these differences are contextual and vary within subjects of study and with age. Male students showed high level of self efficacy in the level of mastery experience, social persuasion and level of psychological state as compared to female Students and are at flow. Whereas gender differences in self-efficacy for self-regulated learning, proposed that female students were generally more confident than male students. Albanian University results also showed gender difference in self efficacy and flow.

According to this study males were recorded to have higher self efficacy in chosen subjects like mathematics science than their female counterparts. The analysis of the data indicated that students' level of self-efficacy is high and there is significant gender difference in the level of flow. Efficacy beliefs vary between individuals and will actually fluctuate within an individual for different tasks.

Although the findings of previous researches are consistent with stereotyping of males in the society, the results of this study record significant difference in gender self efficacy and Flow. This can be attributed to the typical stereotyping female roles when social restrictions for females do not encourage them to indulge in outdoor activities. They are then confined to indoor intellectual activities which helps develop their self efficacy beliefs.

It can also be a pointer towards social change for the society in India where educated females in the upper middle class are now being included in family decision making and are being given freedom of choice especially in the age bracket of the sample. This fact is class specific and the data collected through the demographic form shows that the population sample for the survey belongs to upper middle class with educated parents; the findings confirm that some level of social change is in the offing.

These results confirm *Hypothesis 1* in which we expected that the extended channel model of flow, which included also self-efficacy as a predictor of flow experience, would show a better data fit than the original channel model of flow (which only included the challenges and

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skills combination). Besides, the rest of the fit indices in the extended channel model of flow showed a better fit.

The correlation value came out to be .312 which is significant at both the levels. ($p > .05$)

Hypothesis 2 was supported as there is a significant difference between males and females in self efficacy and flow. The value came out to be 2.68 and 6.21 which are significant at both the levels.

Self-efficacy not only directly lead to flow experience, but also indirectly through the challenges and skills combination. From the results obtained, we observed the significant lagged and positive effects from T1 self-efficacy to T1 flow, from T1 self-efficacy to T1 challenges and skills, and from T1 challenges and skills to T1 flow. The same relationships were also shown at T2. Besides, 59% of the T1 flow variance was accounted by the hypothesised predictors, that is, T1 self-efficacy (which accounted for 21.24% of the variance) and T1 challenges and skills (which accounted for 30.68% of the variance). Regarding 70% of the T2 flow 70% variance was accounted by the hypothesised predictors, that is, T2 self-efficacy (which accounted for 25.9% of the variance), T2 challenges and skills (which accounted for 28.7% of the variance) and T1 challenges and skills (which accounted for 13.3% of the variance).

Limitations of the Study

- The study did experience some limitations. The first was that the survey was conducted on small sample size.
- Second limitation: from the fact that the population sample for the survey was from single University.
- Despite limitations, the findings of the study provide a first step towards the identification of the relationship between self efficacy and flow.

Implications of the Study

Future research can work with enlarged sample size by including other disciplines and other universities. It can also be conducted in other cities of India. Self-efficacy for specific subjects can also be explored. Future researches might address the same issues, but with improved measures and a larger preventative population of students.

Implication of the study can lead to teachers being trained towards adopting teaching techniques to improve student's self efficacy for example collaborative teaching, peer learning with female inclusive and subject specific techniques.

CONCLUSION

Self-efficacy beliefs are at the core of social cognitive theory and therefore touch virtually every aspect of human lives. Past two decades of research in the Flow has established that self efficacy is the predictor and determinant of students' motivation and learning. This study provides empirical evidence that there is a definite relation between self efficacy and academic motivation. However the results of this study did not confirm the second hypothesis

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Derived from the earlier researches that there is significant difference in Flow and self efficacy in the gender domain where it differs in subjects and varies with age. Difference in gender self efficacy for mathematics emerged in late adolescence (Huang, C. 2013) and the largest difference was observed in the age bracket of over 23 years. The present study collected data of the same age with majority being just under 23 years and showed gender difference in self-efficacy in the youth.

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