

Psychological Antecedents of Engagement in Business Education: A Study of Indian B-School Students

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Engagement in school refers to “constructive, focused, enthusiastic participation in the activities of classroom learning (Skinner, Kindermann and Furrer, 2009).” The intention of this study was to identify the psychological antecedents of engagement in class room learning among Indian Business School students. Using the concepts of Self Determination Theory (Deci and Ryan, 1985 and 2000), it was hypothesized that the satisfaction of the basic needs of relatedness, autonomy and competence through education will lead to higher level of autonomous (intrinsic, identified) motivation and lower levels of controlled (extrinsic, introjected) motivation, which will in turn affect the level of behavioral, cognitive and emotional engagement in learning activities among the students. Results suggest that the fulfilment of the need for competence significantly affected autonomous motivation, which in turn led to greater cognitive, emotional and behavioral engagement in learning activities. Relatedness and autonomy needs did not affect motivation and engagement among Business School students in India.

Key Words: Business education, Engagement, Motivation, Competence, Autonomy, Relatedness

INTRODUCTION

Engagement in school refers to “constructive, focused, enthusiastic participation in the activities of classroom learning (Skinner, Kindermann and Furrer, 2009)”. It focuses on conceptual understanding and flexible use of knowledge (Deci, Vallerand, Pelletier and Ryan, 1991). The fast-changing technology in businesses today has made the application of knowledge critical in management education. Engaging students in the learning process therefore has become an irreplaceable source of competitive advantage for management educators.

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The literature on the antecedents of engagement is focused on external factors like interactions with peers and teachers, the nature of the task (Fredricks, 2011), syllabus, library, faculty, administration, classroom facility, computer facilities, canteen facilities, books, extra-curricular facilities (Sharma, Khandelwal and Ninghoujam, 2012; Singh and Srivastava, 2013; and Sharma and Bhaumik, 2013) etc. Knowing the psychological factors that drive engagement will provide deeper insights into the phenomenon. Motivation to learn is one such psychological antecedent of engagement.

For very long, the concepts of motivation and engagement were conceptualized using similar dimensions like number of tasks attempted, time spent on an activity etc. (Maehr and Meyer, 1997; Reeve, 2012; and Reeve and Tseng, 2011). However, researchers now agree that the two concepts are different. Motivation refers to the underlying unobservable psychological drivers of behavior, whereas engagement looks at overt behavior that is visible to everyone (Reeve, 2012). This means that if we need to influence engagement of students in learning, we need to first understand their motives for pursuing the academic endeavor (Benware and Deci, 1984; Deci, Vallerand, Pelletier and Ryan, 1991; and Ryan and Powelson, 1991).

The intention of this study was to explore the psychological aspects of motivation in students of business education and its relation to engagement in school.

Academic research on engagement in school which started with the work of Finn (1989) was mainly fueled by the need to reduce school dropouts and retain them in formal education in America. A lot of the early research on student engagement has therefore been based on primary and middle school students in America. The level and process of engagement tends to change with age. The students pursuing higher education are capable of deeper learning and engagement (Fredricks and McColskey, 2012) as compared to primary school students. Therefore, the findings of these early studies can't be directly applied to all samples. Secondly, the expression of cognition, motivation and emotions experienced by people differ across cultures (Markus and Kitayama, 1991). That is the reason why the application of motivation and engagement needs to be contextualized to the culture and demography of the population being studied. Cultures define the role of education for students, they also prescribe what kind of education would lead to greater social recognition and which would not (Bond, 1986). Yet the motivation and engagement studies limit themselves to the classroom environment (Furrer and Skinner, 2003; and Ntoumanis and Standage, 2009) and do not explore how the social cultural background of the student might affect motivation and engagement in school.

The second objective of this study is to understand the effect of culture on motivation and engagement. The theories of engagement and motivation in learning have been looked at from the Indian cultural context in this paper.

The findings of this study would be relevant in extending the theory of engagement in school by making it culturally inclusive.

The sections below discuss the concepts of engagement, motivation and their effect on student behavior.

ENGAGEMENT IN SCHOOL

Engagement in school has been conceptualized using multiple dimensions. However, the tripartite model of understanding engagement in school, comprising the behavioral, cognitive and emotional dimensions, is the most studied till date (Fredricks, Blumenfeld and Paris, 2004; Appleton, Christenson and Furlong, 2008; and Appleton, Christenson, Kim and Reschly, 2006). In this study engagement has been operationalized using these three dimensions.

Behavioral engagement refers to high task persistence; high effort on task, attention and concentration. Emotional engagement refers to presence of task facilitating emotions (interest, curiosity, enthusiasm etc.) and absence of task withdrawing emotions: distress, anger, anxiety, fear, frustration). Cognitive Engagement refers to the use of sophisticated deep and personalized learning strategies; seeking conceptual understanding rather than surface knowledge; use of self-regulatory strategies like planning etc. (Fredricks, Blumenfeld and Paris, 2004; Reeve, 2012; and Phan, Ngu, and Alrashidi, 2016).

Fredricks (2011) found that students could vary on the levels of engagement they experience on the three dimensions, implying that one could show high behavioral engagement but low emotional and cognitive engagement. To know why this occurs, it becomes imperative to look at the motivations underlying the academic pursuit.

MOTIVATION: THE PSYCHOLOGICAL ANTECEDENT OF ENGAGEMENT

The theory and understanding of motivation has evolved over the years. This evolution is depicted by Maehr and Meyer (1997) using three metaphors: person as machine, person as decision maker; person as creator of meaning. The first two metaphors studied motivation from the perspective of goals and operationalized motivation using parameters like intensity, directionality, outcomes of any action etc. The 'person as meaning maker' theories shifted the focus on what energizes these behaviors (Deci, Vallerand, Pelletier and Ryan, 1991).

The Self-Determination Theory (SDT) (Deci and Ryan, 1985, 2000; and Ryan, Connell and Deci, 1985) is one such theory that delineates some basic universal needs which when fulfilled energize people and lead to positive outcomes like adaptability, well-being and intrinsic motivation. The Self- Determination theory identifies three needs—the need for competence, relatedness and autonomy, as being central to optimal human functioning (Deci and Ryan, 1985, 2000; and Ryan, Connell and Deci, 1985). It also provides a nuanced explanation of when behavior can be called autonomous and when it is controlled by outside forces. Motivation is depicted using a continuum

with purely intrinsic motivation on one end and purely extrinsic motivation on the other end. Between these two extremes there are a range of motivations.

Intrinsic motivation is something that makes people engage in activities for the pure pleasure of doing so and is not associated with any external reward (Deci, 1971 and 1972; Deci and Ryan, 1980 and 2000; and Vallerand, Blais, Briere and Pelletier, 1989). Behavior that is purely extrinsically motivated is driven by the desire to avoid punishment or to gain a reward. Motivation reduces as soon as the reward is removed or punishment becomes insignificant. For example a student would study simply because “that’s what his/her parents force him/her to do.”

Deci and Ryan (1980 and 2000) have further classified extrinsic motivation to suggest a continuum ranging from extrinsic, introjected, identified and internalized motivation, based on the level of internalization of the external reward or value that drives behavior.

Internalization is an active process through which individuals attempt to transform socially sanctioned mores and requests into personally endorsed values and regulations (Ryan, Connell and Deci, 1985).

When behavior is driven by the external values endorsed by others, but the individual starts associating personal achievement or shame with it, it is called *introjected* motivation (Deci and Ryan, 2000; and Ryan and Connell, 1989). For example, when an individual pursues an MBA course “because that would lead to greater position in society.” The academic pursuit is instrumental not because one is interested in it but because it gives them recognition in society. Social acceptance and recognition is the reward for having an MBA degree. The reason for studying here is mostly external with some implications for self.

Identified and internalized motivation, fall on the more internalized end of the continuum of extrinsic motivation, where people do things because they personally accept the values that was being externally endorsed till now. All aspects of one’s life and identity then get merged with these values (Ryan, 1995). For example a person with an identified motivation would enroll in an MBA program “because it is important for the career progression for him/her.”

Intrinsic and identified motivations can be clubbed as being autonomous since they are driven more from within the person. The extrinsic and introjected together are driven mostly by outside factors and can be called controlled motivation.

Though internalization is a natural process that is positively correlated with age, but some conditions facilitate the internalization process (Deci and Ryan, 2000, p. 238). The satisfaction of the basic needs could lead to intrinsic motivation. For example, educational environments that facilitate the satisfaction of the three needs for competence (Fortier, Vallerand and Guay, 1995), relatedness (Furrer and Skinner,

2003; and Rigby, Deci, Patrick and Ryan, 1992) and autonomy (Black and Deci, 2000; Ryan and Powelson, 1991; and Deci, Ryan, and Williams, 1996) were seen to increase autonomous motivation (Benware and Deci, 1984).

Many researchers have argued that there would be cultural differences in the importance of these needs and the ways in which they are experienced (Christopher, 1999; Katz and Assor, 2007; Oishi, Diener, Choi, Kim-Prieto and Choi, 2007; and Schimmack, Radhakrishnan, Oishi, Dzokoto and Ahadi, 2002). The antecedent conditions that lead to autonomous motivation are discussed below. The effect of culture on these variables is also discussed.

CULTURE AND MOTIVATION

The individualism-collectivism dimension is the most widely studied aspect in cross cultural research on motivation (Markus and Kitayama, 1991). The Indian culture is a mix of individualism and collectivism. "Attitudinally, at least, the individual is going nuclear, but without losing the benefits of kinship and extended family living (Sinha and Tripathi, 2003)" This seems more reflective of the contemporary urban India which has been exposed a lot more to the western world. A study in an Information Technology organization in India found that people exhibited collectivistic tendencies outside work and individualistic tendencies at work (Gupta and Panda, 2003). Kagitcibasi (2003) calls this the autonomous-relational self, indicating material independence but psychological interdependence (p. 170).

The Self Determination theory highlights three psychological needs that determine whether the motivation will be autonomous or controlled. These three needs are: competence, relatedness and autonomy.

Competence

Competence refers to an individual's "propensity to have an effect on the environment as well as to attain valued outcomes within it (Ryan, 1995)." The definition emphasizes two things: (i) having an effect on the environment; and (ii) an individual's evaluation of one's own ability to reach a goal.

The first aspect about being able to change one's environment is agentic in its assumption. In India taking responsibility for one's actions (*karma*) is culturally prescribed. These actions, however are valued more when they are directed towards fulfilling one's *dharma* (duty towards the family and social group) (Paranjpe, 1998). Markus and Kitayama (1991) borrow from other authors to define motivation as "the reasons for why people initiate, terminate and persist in certain actions in particular circumstances". They argue that people in collectivistic cultures have motives that are social or have others as a reference, unlike people in the west who are driven by motives rooted in the self. Bond (1986), for example, found that students in Hong Kong were driven by socially oriented achievement motivation which means that their

motive to achieve was based on a desire to meet the expectations of their family and in group members, instead of personal needs and aspirations.

Therefore, in partly collectivistic cultures, like India, if any activity helps the person fulfil his/her duty towards the family and social group, it will make a person feel competent. Research also supports this understanding of competence. For example, intelligence which is at times used as a proxy for competence, has been studied using the cognitive dimension alone in the west. It was found that people in various interdependent cultures tend to measure competence not just along the cognitive dimension, but also along the social dimension i. e. the extent to which the individual is socially responsible and has the ability to deal with the social group effectively (Kagitcibasi, 2003).

The second aspect of competence involving self-evaluations of one's ability to reach a particular goal is well accepted and studied using different labels. Self-efficacy for example refers to an individual's judgments of their capabilities to organize and execute courses of action required to attain designated types of performances (Bandura, 1986 and 1997). Studies have shown that self-efficacy is a relevant construct across various cultures (Luszczynska, Dona, Schwarzer, 2005; and Scholz, Dona, Sud and Schwarzer, 2002) including in India (Verma and Sharma, 2013).

The importance of self-efficacy in students for their performance and well-being has also been well documented (David, Okazaki and Saw, 2009; DeWitz and Walsh, 2002; and Muris, 2002).

Competence would be required in almost all cultural contexts, but the nature of competence required and the reasons driving the need for competence could vary. People in more interdependent cultures would probably assess oneself not just on one's efficacy in cognitive and intellectual spheres but also in social spheres. Even the cognitive competence would be valued more because it aids in meeting one's social role expectations.

According to the Self Determination Theory, when the need for competence is met, it leads to internalization of external values and therefore to greater autonomous motivation. Based on this argument, this study argues that if a student feels confident about one's ability to do well in the course related studies/activities and also feels competent because he/she is able to meet the social role responsibilities through it (example: I am able to take care of my family, I am the eldest son and this is my responsibility to get a good job and take care of them), the person will in all likelihood also exhibit more autonomous motivation. Greater the satisfaction of the need for competence, more autonomous the behavior.

H1a: The satisfaction of the need for competence will be positively related to autonomous (Intrinsic and Identified) motivation for learning.

H1b: The satisfaction of the need for competence will be negatively related to controlled (Extrinsic and Introjected) motivation for learning.

Relatedness

Relatedness is “the desire to feel connected to others—to love and care, and to be loved and cared for”. This is the universal need to belong that all humans possess. Individual’s between the ages of 21 years-39 years are struggling to form intimate relationships at work, friendships and in love as well as having a separate sense of existence from the others (Erikson, 1963). This is the age when people are usually studying to pursue a career or start working. This psychosocial development stage is found in Indian youth as well. But, in Indian’s the sense of identity developed during adolescence was found to be more relational as compared to their western counterparts. Personal identities start developing only during early adulthood or even later (Saraswathi, 1999). Which means that in India individuals learn to first define themselves using one’s duties and obligations towards the family and social group i.e. one’s *dharma* (Kane, 1968, History of dharmasastras, Vol 1, p 3 as cited in Pranajpe, 1998). Similar findings were reported by studies done in other non-individualistic cultures as well (Markus and Kitayama, 1991). One’s vocation in such cultures becomes instrumental in defining a person’s social worth (Bond, 1986) and at times even facilitates marriage alliances (Anuradha, Srinivas, Singhal and Ramnarayan, 2014).

The relationships with parents, peers and teachers at school were seen to affect the motivation of primary school children. Though management education is considered to be competitive unlike primary education, research on prosocial motivation in MBA students has shown that collaboration tends to improve the performance of students more than competition does (Grant, 2016; and Stephens, Fryberg, Markus, Johnson & Covarrubias, 2012).

One explanation for this finding can be sought from the Social Identity theory (Tajfel 1982; and Tajfel and Turner 2003) and research on relational identification (Sluss and Ashforth, 2007). Relational identification with a workgroup is the extent to which one includes the connections and role relationships with group members in one’s self-concept. Collective or social identification is the degree to which one includes group membership and shared characteristics of the group into one’s self-concept. When people identify with the relations they have in an organization/institute, they tend to engage in more collaborative work. Group members also evaluate others, as favorably as they would evaluate themselves. These evaluations lead to self enhancement, sense of belongingness and intrinsic motivation in turn (Zhang, Chen, Chen, Liu and Johnson, 2012) .

Based on the above arguments, it can be deduced that when education allows for the satisfaction of the need to form close relationships, and affirms one’s standing in one’s social group, it will lead to greater internalization of the value of engaging in the

activity. The internalization in turn leads to more autonomous motivation. This effect of relationships on motivation is distinct from the effect of autonomy or any other factor (Furrer and Skinner, 2003).

H1c: The satisfaction of the need for relatedness through education will be positively related to autonomous (Intrinsic and Identified) motivation for learning.

H1d: The satisfaction of the need for relatedness through education will be negatively related to controlled (Extrinsic and Introjected) motivation for learning.

Autonomy

Autonomy is defined as “the organismic desire to self-organize experience and behavior and to have activity be concordant with one’s integrated sense of self (Ryan, 1995).” The SDT claims that this is the most important of the psychological needs that supersedes the desire for relatedness and competence (Deci and Ryan, 2000).

Autonomy has been criticized for bearing a western individualistic assumption (Christopher, 1999). It is argued that the sense of agency for people in collectivistic cultures comes from being socially perceptive, to adjust to the needs and demands of others and at times to even forgo one’s own desires for the sake of others (Markus and Kitayama, 1991). In one research, Asian American kids showed highest intrinsic motivation when a choice was made for them by a significant other. While their American counterparts showed highest intrinsic motivation when they made a choice for themselves (Iyengar and Lepper, 1999; and Cordova and Lepper, 1996). In simulated settings it was also seen that when collectivistic norms were activated (in individualistic people) people tended to be ok with others making decisions for them (Hagger, Rentzelas and Chatzisarantis, 2014).

Chirkov, Ryan, Kim and Kaplan (2003) counter the criticisms about autonomy being biased towards individualistic cultures by arguing that autonomy and independence are not the same thing according to the self-determination theory. When values endorsed by forces outside of the self are internalized it leads to authenticity in behavior. A person who is engaged in a task authentically (autonomously) will demonstrate more intrinsic motivation as compared to a person who is not authentic irrespective of the dominant cultural values.

For example, if a person in a collectivistic culture has deeply internalized the norm that their parents will make the career and other life choices for them, they will report identified or internalized motivation. This person will display motivation levels like someone who is intrinsically motivated. In contrast, imagine a person who has not internalized this norm. Such a person will experience greater anxiety while engaging in the tasks chosen by his/her parents. And will indicate extrinsic motivation. This phenomenon they believe is the crux of autonomy. Internalization is not culture specific.

Therefore irrespective of whether the student has enrolled for a course out of personal interest or to gain a social advantage, as long as the individual has internalized this value, the likelihood of the person being autonomously motivated is high.

H1e: The satisfaction of the need for autonomy will be positively related to autonomous (Intrinsic and Identified) motivation for learning.

H1f: The satisfaction of the need for autonomy will be negatively related to controlled (Extrinsic and Introjected) motivation for learning.

ENGAGEMENT AND MOTIVATION

Educational environments that facilitate the satisfaction of the three needs for competence (Fortier, Vallerand and Guay, 1995), relatedness (Furrer and Skinner, 2003; Rigby, Deci, Patrick, and Ryan, 1992) and autonomy (Black and Deci, 2000; Ryan and Powelson, 1991; and Deci, Ryan and Williams, 1996) were seen to increase autonomous motivation (Benware and Deci, 1984). Ryan and Connell (1989) compared students who reported introjected (controlled) and identified (autonomous) motivation, and found that both the groups of students fared similarly on teacher and parent reported measure of trying hard at school (Behavioral Engagement) but the students with introjected motivation also indicated experiencing greater anxiety.

We argue that autonomous motivation that might also come from internalization of external drivers, will lead to engagement at the behavioral, emotional as well as cognitive level. When the external drivers are not internalized i.e. a person is driven by controlled motivation, the levels of engagement at the three levels will be low.

H2a: Autonomous (Intrinsic and Identified) motivation will be positively related with behavioral, emotional and cognitive engagement.

H2b: Controlled (Extrinsic and Introjected) motivation will be negatively related with behavioral, emotional and cognitive engagement.

We are therefore studying the mediating role of motivation in the relationship between psychological needs and engagement.

H3a: Satisfaction of the three psychological needs of competence, relatedness and autonomy will lead to autonomous motivation which in turn will lead to engagement in school.

H3b: Non-satisfaction of the three psychological needs of competence, relatedness and autonomy will lead to controlled motivation which in turn will lead to poor engagement in school.

METHOD

SAMPLE

The study was carried out on students of the two-year full-time program at a Business School in India. A total of 223 participants were studied. The age of the participants

ranged from 21-25 years. Most of them hold a degree in engineering, while some were commerce graduates. The work experience of the participants ranged from 0-2 years. 34% of the sample were women and 65% were men.

Several extraneous factors that could affect engagement in school other than psychological need satisfaction and nature of motivation resulting from it. These extraneous factors were controlled through the study design. For example, since need satisfaction, motivation and engagement are moderately stable and change a little with time and circumstances (Fredricks and McColskey, 2012; Appleton, Christenson and Furlong, 2008, Fredicks, Blumenfeld and Paris, 2004), aspects like job placements, direct relevance of the course content for getting a job and choice in deciding on subjects of study could also influence the level of motivation and engagement levels of students in a Business school. To ensure that these extrinsic factors are controlled, the data was collected when students were at two different phases during the MBA program. One set of the participants were in the early stages of the program. All their subjects now were core (compulsory). These students had very little industry exposure. Half the participants were at an advanced stage in the MBA program. They were going through courses that they had selected out of an array of elective courses based on their interest levels. They had undergone an industry internship program and were also going through the process of job placements. The participants were instructed to base their responses on how they behave or feel for the MBA program as a whole instead of for any single subject or class.

MEASUREMENT INSTRUMENTS

Psychological Needs Satisfaction: The Basic Psychological Need Satisfaction and Frustration Scale (General Measure) developed by Chen, Vansteenkiste, Beyers, W., Boone, Deci, Duriez, Lens, Matos, Mouratidis, Ryan, Sheldon, Soenens, Van Petegem, Van der Kaap- Deeder and Verstuyf (2015) was used to measure the level of satisfaction of the need for relatedness, competence and autonomy in making one's choice to do an MBA. The statements were reworded to make them relevant for the study. For example, the statement "I feel a sense of choice and freedom in the things I undertake" used to measure autonomy in general was reworded to "I feel a sense of choice and freedom in my decision to do an MBA". The scale comprised 24 items and the responses were measured on a 5-point Likert scale where 1 meant "not true at all" and 5 was "completely true". Competence was measured using statements like "I feel confident that I can do well in the MBA program". Relatedness was measured with items like "I feel close and connected with other people who are important to me". Some statements related to the social and family aspects of these three dimensions were also included. For example: "I feel that my education is not making me a valued member of my family and society (reverse scored)" "My choice to do an MBA is based on popular trend rather than my real interest (reverse scored)" "I feel competent that my education will help me meet my responsibilities towards my family."

Motivation: Motivation was measured using the Academic Self-Regulation Questionnaire (General measure) developed by Ryan and Connell (1989). The academic self-regulation questionnaire gives separate scores on external, introjected, identified and intrinsic motivation. If required one could also calculate the relative autonomy index using a formula given by the authors. Some adaptations in the wording of the statements were made to suit the purpose of this research. For example, the question: “why do I do my homework” was replaced with the statement “I do my assignment for the course”. The response categories were also increased from 4 to 5 to ensure it becomes an ordinal scale. The scale presents the respondents with three statements regarding why he/she does assignments at school, answers difficult question etc. Each statement is followed by eight reasons for engaging in those activities. The respondent is supposed to respond to each statement using a five point likert scale ranging from 1- “not true at all” to 5-”very true” . For example: “I try to answer hard questions in class” (i) Because I want the other students to think I’m smart. (ii) Because I feel ashamed of myself when I don’t try. (iii) Because I enjoy answering hard questions. Iv. Because that’s what I’m supposed to do v. To find out if I’m right or wrong. (vi) Because it’s fun to answer hard questions. (vii) Because it’s important to me to try to answer hard questions in class; and (viii) Because I want the teacher to say nice things about me. The scale comprised a total of 24 items.

Engagement in School: Engagement in school was measured using an adapted version from two different engagement scales (Fredricks, Blumenfeld, Friedel and Paris, 2005; Suarez-Orozco, Pimentel and Martin, 2009). This version of the scale was used previously in another study (Phan, Ngu and Alrashidi, 2016). The items measured cognitive, behavioral and emotional engagement in students. Statements were adapted to suit for measurement of engagement in an MBA course. The respondents had to rate 12 statements on a seven-point Likert scale ranging from 1- not true at all to 7- very true of me. Sample statements include “I read extra books to learn more about things we do in classes” (Cognitive Engagement). “I always finish my course related work on time” (Behavioral Engagement). “I like being in the business management classes” (Emotional Engagement).

To reduce the effect of systematic method bias occurring due to the measurement of the predictor and criterion variable at the same time, the ‘context’ of the scales was varied (Podsakoff, Mackenzie, Lee and Podsakoff, 2003). The motivation and need satisfaction scales used a 5-point Likert scale, whereas the engagement questionnaire used a 7-point Likert scale. Significant effort was also spent in designing the questionnaires. Since preestablished questionnaires were used with some adaptations to suit the context of this research, the scales were shared with 4 colleagues of the researcher who were senior researchers and 10 students. These 14 people reviewed the statements for face validity. The engagement levels of the students could have been assessed by faculty, but this was not very practical because it would compromise

on the anonymity of the participants. It would also mean that we take the engagement ratings for all students from all faculty in all courses of the program to control for external factors other than the independent variables being studied here affecting the results. This was difficult from an administration perspective. However, to reduce the social desirability aspect in the responses of the participants, the researchers collected data from the participants while they were all seated together in a classroom. Clear instructions were provided, emphasizing that there were no right or wrong answers. They were also assured that the responses will be anonymous and therefore the participants should be as honest as possible. The data collection was carried out using the help of research assistants and no faculty were present during the administration of the questionnaires. This was done to reduce any anxiety and tendency to give socially desirable answers by the participants, therefore all the remedies provided by Podsakoff *et al.*, (2003) for times when criterion variables can't be obtained from different sources at different points in time have been incorporated in the design of this study i.e. the questionnaire design was validated and the predictor and criterion variables were psychologically separated through instructions provided before each measurement along with guarantee of anonymity.

RESULTS

The data was analyzed in two steps.

- i. Confirmatory factor analysis was carried out to test the strength of the measurement and structural model proposed here.
- ii. Mediation analysis was done to test the significance of the hypothesized mediation relationship.

CONFIRMATORY FACTOR ANALYSIS

Confirmatory factor analysis was carried out using the Partial Least Squares method of Structural Equation Modelling (PLS-SEM) as proposed by Hair Jr, Hult, Ringle and Sarstedt (2014). The Smart PLS 2.0 software was used for analysis. The use of PLS SEM is not very common in organizational behaviour studies, however we decided to use this instead of a covariance based models of SEM (as used by LISREL and AMOS) because the latter methods of analysis are strongly data intensive. The 233 data points would not have yielded very meaningful results for our model given that we were assessing 8 constructs with 60 items. The PLS SEM is also not bound by the condition of the normality of the distribution. According to Hair, Hult, Ringle and Sarstedt (2014) the results of covariance-based SEM and PLS-SEM do not differ much. PLS in fact leads to more accurate results when the model is complex, and has several variables since the overall complexity of the model does not affect the sample size requirements in PLS based SEM.

TESTING THE MEASUREMENT MODEL

All constructs in this study were measured using reflective indicators.

The Indicator reliability was tested using the item loadings. All items that had loadings of below 0.7 were removed before further analysis. Two items from the competence scale, six from the relatedness scale, one from the autonomy scale, two from cognitive engagement and one from emotional engagement scale were removed because of poor loadings. Some items that had loading close to 0.6 (C6, R1, A4) were retained because their removal did not change the Average Variance Extracted (AVE) significantly.

Convergent validity was measured using the AVE. The AVE's for all the constructs was above 0.5 indicating that all the constructs studied here showed convergent validity. Discriminant validity was measured by two methods (i) by examining the cross loadings of the indicators and ii by using the Fornell-Larckers criterion (see, Hair Jr, Hult, Ringle and Sarstedt, 2014 for details). Both the methods established that all the indicators were distinct from each other and therefore possessed discriminant validity.

Internal consistency was measured using the Cronbach's alpha coefficients and composite reliability scores. The Cronbach's alpha scores for all the scales except relatedness (0.44) and cognitive engagement (0.55) were above 0.7. Chronbach alpha is very sensitive to the number of items on the scale. It is possible that the poor alpha scores for relatedness and cognitive engagement were a result of fewer items on these scales. Composite reliability is a good alternative to measure internal consistency in such cases. The composite reliability scores for all the constructs were well above 0.7 indicating good reliability.

Multicollinearity was also assessed and all the VIF scores were found to be below 5 indicating absence of multicollinearity (see Table 1 for details on Measurement Model).

TESTING THE STRUCTURAL MODEL

The R^2 values, the significance of the path coefficients (using bootstrapping method) and the predictive relevance of the model (using the blindfolding method, Q^2) was carried out to test the strength of the structural model (see Table 2 and 3 for details on Structural Model).

The R^2 values of all the endogenous variables were low, however the Q^2 values were above zero (except for controlled motivation (-0.0218)) indicating that the model does have predictive relevance. Simply put it means that the exogenous variables do predict the endogenous variables (Except controlled motivation) as proposed by the model being tested.

Apart from these indicators the importance of each variable in predicting the dependent variables was also measured using the f^2 and q^2 statistics. The f^2 effect sizes measure the magnitude of impact a particular variable has on the R^2 values. It does

Table 1: Indicating the Result Summary of the Reflective Measurement Model

Latent Variable	Indicators	Indicator Reliability	Cronbach's Alpha	Composite Reliability	Ave	Discriminant Validity
COMPETENCE (COMP)	C_1	0.7782	0.75	0.83	0.50	Y
	C_2	0.7443				
	C_3	0.6941				
	C_4	0.6878				
	C_6	0.5975				
RELATEDNESS (REL)	R_1	0.6089	0.44	0.73	0.50	Y
	R_2	0.7284				
	R_5	0.7142				
AUTONOMOUS (AUTO)	A_1	0.6074	0.82	0.87	0.50	Y
	A_3	0.7074				
	A_4	0.5745				
	A_5	0.7607				
	A_6	0.6904				
	A_7	0.7039				
	A_8	0.7847				
	AUTMOT	1				
AUTONOMOUS MOTIVATION (AUTMOT)				1	1	Y
CONTROLLED MOTIVATION (CONMOT)	CONMOT	1	0.81	1	1	Y
COGNITIVE ENGAGEMENT (CEN)	CEN_1	0.698	0.55	0.77	0.53	Y
	CEN_2	0.737				

Table 1 (Cont.)

Latent Variable	Indicators	Indicator Reliability	Cronbach's Alpha	Composite Reliability	Ave	Discriminant Validity
EMOTIONAL ENGAGEMENT (EEN)	CEN_5	0.7389	0.87	0.91	0.71	Y
	EEN_1	0.8507				
	EEN_2	0.844				
	EEN_3	0.8344				
	EEN_4	0.8504				
BEHAVIORAL ENGAGEMENT (BEN)	BEN_1	0.7265	0.75	0.83	0.56	Y
	BEN_2	0.7385				
	BEN_3	0.8312				
	BEN_4	0.6848				

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 2: Indicating the R^2 and Q^2 Values of Endogenous Variables

ENDOGENOUS LATENT VARIABLES	R^2	Q^2
AUTMOT	0.105	0.1149
CONMOT	0.0009	-0.0218
CEN	0.1299	0.0254
EEN	0.1686	0.0482
BEN	0.0831	0.0652

Table 3: Indicating the Results of Structural Model

	PATH COEFFICIENTS	T-VALUES
COMP → AUTMOT	0.22	2.48**
REL → AUTMOT	0.0784	1.2155
AUTO → AUTMOT	0.1019	1.5278
COMP → CONMOT	0.0145	0.2358
REL → CONMOT	0.0237	0.1985
AUTO → CONMOT	-0.0259	0.3529
AUTMOT → CEN	0.5	4.56***
AUTMOT → EEN	0.56	4.0***
AUTMOT → BEN	0.3939	3.51***
CONMOT → CEN	-0.3049	1.3099
CONMOT → EEN	-0.2893	1.4688
CONMOT → BEN	-0.2147	1.0125

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

Table 4: Indicating the Summary of Structural Model

AUTMOT				
	PATH COEFFICIENT	T VALUES	F ² EFFECT SIZE	Q ² EFFECT SIZE
COMP	0.22	2.48**	0.041	0.03
REL	0.0784	1.22	0.006	-0.005
AUTO	0.1019	1.53	0.008	-0.003
CONMOT				
COMP	0.0145	0.24	0.0002	-0.008
REL	0.0237	0.20	0.0005	0.007
AUTO	-0.0259	0.40	0.0005	0.006
CEN				
AUTMOT	0.5	4.56***	0.14	0.09
CONMOT	-0.3049	1.31	0.05	0.04
EEN				
UTMOT	0.56	4.0***	0.19	0.08
CONMOT	-0.2893	1.57	0.05	-0.02
BEN				
AUTMOT	0.3939	3.51***	0.09	0.04
CONMOT	-0.2147	1.01	0.03	0.01

Note: * $p < 0.05$; ** $p < 0.01$; *** $p < 0.001$.

this by calculating the R^2 values after removing one variable at a time. Similarly, q^2 calculates the relative impact of each exogenous variable in predicting the endogenous variable. f^2 and q^2 values of around 0.02, 0.15, and 0.35 are used as rules of the thumb indicating a small, medium, and large effect sizes respectively. The effect sizes are low to moderate for almost all variables (See Table 4).

MEDIATION ANALYSIS

We did this analysis on the Smart PLS software itself. Preacher and Hayes' (2004) method to test mediation tries to address the shortcomings of the method suggested by Baron and Kenny (1986). Baron and Kenny have been criticized using the rationale that the direct effect (a to c) need not necessarily be the sum of the effect of paths ab and bc. Preacher and Hayes use a more sophisticated bootstrapping method for testing mediation. This also increases the power of the test results as compared to the Baron and Kenny (1986) method which had a higher likelihood of type two errors occurring (Preacher and Hayes, 2008; and Preacher, Rucker and Hayes, 2007). There are many techniques that one can use to assess mediation using Preacher and Hayes' method. In this study we use the bias-corrected bootstrap confidence interval (Chin, 2010; and Hayes and Scharkow, 2013) test to measure mediation. This method identifies direct and indirect paths from the model being tested, then performs bootstrap resampling, calculates the product of the direct paths to arrive at the indirect path and finally estimates the significance of the indirect paths using percentile bootstrap confidence intervals.

Hair Jr, Hult, Ringle and Sarstedt (2014) suggest that one needs to first assess the significance of the direct paths in the structural model. Only when any direct path is significant can the test for mediation be done. After analysis it was found that the direct paths leading from competence to the three dimensions of engagement (CEN: $t=3.16$, $p=0.01$; BEN: $t=2.85$; $p=0.01$; EEN: $t=4.64$, $p=0.01$) were significant. The direct effect of relatedness and autonomy to emotional engagement (EEN) was also significant (REL→EEN: $t=2.17$; $p=0.05$; AUT→EEN: $t=4.64$, $p=0.01$). We therefore proceeded with testing the indirect effects only for these paths. All the paths were significant when autonomous motivation was tested as a mediator between competence and engagement (See Table 5). Significance is tested here by looking at the upper and lower confidence intervals. When the intervals do not change signs i.e. zero does not appear in the intervals between the upper and lower limits, the path can be said to be significant. Controlled motivation did not emerge as a significant mediator in the relationship between competence and engagement. The indirect effect when autonomous motivation was introduced in the relationship between autonomy and emotional engagement, was also significant. Controlled motivation did not emerge as a significant mediator variable here too. The indirect effects of autonomous and controlled motivation on the relationship between relatedness and emotional engagement was also not significant.

Table 5: Path Coefficients and Indirect Effects of the Mediation Model

	Total Effect	Direct Effects						Indirect Effects	
		AUTMOT	CONTMOT	CEN	EEN	BEN	LOWER	UPPER	
COMP → CEN	0.26 (3.16)***								
COMP → EEN	0.15 (2.03)**								
COMP → BEN	0.26 (2.85)***								
REL → EEN	0.17 (2.17)**								
AUTO → EEN	0.34 (4.64)***								
COMP		0.22 (2.34)**	0.01 (0.24)						
REL		0.18 (1.21)	0.02 (0.21)						
AUTO		0.10 (1.5)	-0.03 (0.47)						
AUTMOT				0.5 (1.75)*	0.55 (1.99)**	0.39 (1.53)			
CONMOT				-0.31 (1.30)	-0.39 (1.47)	-0.22 (1.03)			

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Table 5 (Cont.)

	Total Effect	Direct Effects						Indirect Effects	
		AUTMOT	CONTMOT	CEN	EEN	BEN	LOWER	UPPER	
COMP → AUTMOT → CEN							0.07	0.25	
COMP → AUTMOT → BEN							0.05	0.22	
COMP → AUTMOT → EEN							0.07	0.25	
COMP → CONMOT → CEN							-0.05	0.02	
COMP → CONMOT → BEN							-0.04	0.02	
COMP → CONMOT → EEN							-0.05	0.02	
REL → AUTMOT → EEN							-0.03	0.13	
REL → CONMOT → EEN							-0.06	0.04	
AUTO → AUTMOT → EEN							0.01	0.15	
AUTO → CONMOT → EEN							-0.03	0.03	

Note: * $p < 0.05$, ** $p < 0.01$; *** $p < 0.001$.

These results support hypothesis *H1a* and *H2a*. Hypothesis *H3a* is only partially supported because only competence-autonomous motivation and engagement relationship emerged as having a significant impact. The other hypotheses (*H1b*, *H1c*, *H1d*, *H1e*, *H1f*, *H2b* and *H3b*) were not supported by the data in the present study.

DISCUSSION

The intention of this research was to explore, contextualize and validate the understanding of psychological antecedents of engagement in school. The results suggest that for Business School students in India the fulfilment of the need for competence is the only significant variable leading to autonomous motivation and overall engagement in learning. The fulfilment of the need for relatedness and autonomy did not significantly affect engagement in learning. These findings are contradictory to previous research findings in the west and in some other countries (Chirkov, Ryan, Kim and Kaplan, 2003) that stress the importance of all the three psychological needs for motivation and engagement.

Competence was conceptualized using the general notion of self-efficacy as well as the personal understanding that one is recognized by the society and family. The latter being typical of people from cultures that promote an interdependent conceptualization of the self (Markus and Kitayama, 1991; and Bond, 1986). The results seem to confirm that in cultures like India which are a mix of individualism and collectivism, both - feeling confident of one's personal abilities as well as feeling confident of fulfilling one's social role responsibilities seem to make people internalize the once extrinsic goals and therefore feel autonomously motivated.

Relatedness not affecting motivation and engagement is a little counterintuitive. The results here could be explained in three ways. First it is possible that the need for relatedness is met through the need for competence in some way. When one feels recognized by the relevant others and wider society because of one's education, it might also be confirming the need to remain connected with them. A second explanation could be that in cultures where education is also a means to fulfil one's duties towards the relevant social group, one might seek to fulfil relatedness needs in more personal (non-school) contexts. So, relatedness might seem insignificant as a factor affecting motivation in a formal education set up. It might also be possible that relations at school affect aspects like overall wellbeing of the students, resilience etc and not engagement in school. This could be explored in future research.

Autonomy, has always been a much debated psychological need (as already discussed in the literature section above) (Christopher, 1999; Iyengar and Lepper, 1999; and Cordova and Lepper, 1996). The need for autonomy is conceptualized as being authentic in one's actions. Cross cultural research has suggested that if people act authentically, which (also includes internalizing the social expectations) they experience autonomous motivation (Chirkov, Ryan, Kim and Kaplan, 2003). The findings here prove otherwise.

Autonomy did not emerge as a significant psychological antecedent of motivation or engagement. There could be two explanations for these findings. First is that students at the age as that of our participants did not possess enough personal experience to have been able to explore what interests them. In India, personal identities do not develop till early adulthood or even later (Saraswathi, 1999). Probably most people at this age use cues/signaling provided by the job environment to make education choices. Therefore, autonomy might be insignificant for motivation in young adults. Secondly it is also possible that in some cultures that exhibit collectivistic tendencies, work and education are just a means to an end. The end being fulfilling one's duty towards one's family. Education is important only in instrumental capacities (Sinha, 1990; Tripathi, 1988 as cited in Prakash, 2011). It is not central to one's existence. The family and social duties are central to one's life. Therefore, carrying out certain activities in life without authenticity might not seem uncommon or troublesome for them.

The relationship between autonomous motivation and all three kinds of engagement-cognitive, emotional and behavioral seemed to be strong. Controlled motivation possessed a negative relationship with engagement though this relationship was not significant. Therefore, making students feel competent seems to be a definite means to increase autonomous motivation and engagement in B school students.

The implications of these findings and its limitations are discussed in the sections below.

CONCLUSION

The findings of this study have practical and theoretical implications. These are discussed below.

PRACTICAL IMPLICATIONS

Many institutes with world class facilities comprising good faculty, syllabus etc. (external antecedents of engagement) are also continuously working on ways to improve engagement of students (e.g., Brown, Rich and Holtham, 2014; and Yakavenka and De Vita, 2012). Knowledge of the psychological antecedents of engagement provides a more holistic understanding of student engagement in school. Since the results of the study confirm that feeling competent is an important driver for engagement in Business school students, Business educators could explore how to ensure that the need for competence is met.

One way to make students feel competent is to incrementally increase the difficulty levels of the task. The initial small successes in such tasks make the students believe they can complete the more difficult aspects of it as well. However, the incremental task design should also be accompanied with continuous and constructive feedback.

Learning through teaching (Benware and Deci, 1984) is also a means to increase the sense of competence.

The understanding of the psychological antecedents can be applied in virtual learning contexts as well. The use of gamification and simulations in education is on the rise. Though the simulations are already based on psychological principles of learning, knowing that there are cultural variations in these principles will help organizations customize their simulations for greater impact.

The Pygmalion effect (self-fulfilling prophecy) is well researched in literature as the means to increase self-efficacy and sense of competence in people. These principles of learning are equally applicable in training and development programs. The cohort studied here were young adults and the theories of adult learning are applicable to them as much as to people in mid-career or above levels. If trainers indicate (verbally or non-verbally) their belief in the competence of participants while training, there is a greater likelihood that the participants will be engaged in the learning process.

Finally, knowing what motivates and engages students in the education process is also useful for career counsellors, teachers and parents who wish to help young individuals choose a career path. The cultural expectations about education can be stress inducing for the students at times. It becomes important for parents, teachers and career counsellors to understand the effects of these socio-cultural effects on the sense of competence of the students and utilize it to help the student find their vocation without any anxiety.

In addition to these practical implications this research also adds to the theory in this field.

THEORETICAL IMPLICATIONS

The findings here add to the debate about the cross-cultural relevance of autonomy. Autonomy is considered as the most important need by SDT researchers. According to them even if someone feels competent but is not self-determined (autonomous) it will not lead to intrinsic motivation (Deci, Koestner and Ryan, 2001). This study suggests that it is possible that cultural differences and contextual factors like age of people and nature of activity (business education in this case) affect the kinds of needs that are important for motivation. Future studies should focus on different contexts using participants of varying ages to cross validate if all the three needs are equally important for motivation and engagement.

Very few studies on engagement use business school students as participants (e.g., Molini and Huonker, 2010). The findings here add to this literature as well.

The fulfilment of the three psychological needs also leads to well-being (Deci and Ryan, 1985 and 2000). Well-being was measured as an outcome of engagement but was not included in this paper to ensure simplicity. Exploring the relationship between well-being, engagement and motivation could provide good insights to educators for improving student mental health and performance.

Finally, the findings of this study add to the understanding of student engagement in India. There are three studies that have been carried out to study engagement in Indian Business school students (Sharma, Khandelwal and Ninghoujam, 2012; Singh and Srivastava, 2013; and Singh and Srivastav, 2014). They used multiple items to capture student engagement, like vigour, absorption, dedication, commitment to the institution, various behavioral manifestations (Sharma, Khandelwal and Ninghoujam, 2012; and Sharma and Bhaumik, 2013) belongingness, individual engagement and collaborative engagement etc (Singh and Srivastava, 2013; and Singh and Srivastav, 2014). These studies suggest that belongingness and collaborative engagement are typical to an Indian context, but neither the definition of these concepts or the logical explanation for why these are more relevant for India as compared to other cultures are not clear. The present research adds to these research efforts and helps in understanding engagement and motivation in Indian business schools.

Since, most business schools engage in providing lucrative job placements for their students, therefore a sample using B schools would have an inherent bias towards controlled motivation. “Extrinsic goals are directed outwards and dependent on feedback and acceptance from others for feeling good (Vansteenkiste, Lens and Deci, 2006)”. Doing an MBA could be an extrinsic goal for many. Does that mean that people following extrinsic goals cannot experience any intrinsic motivation? This study provides some insights into this by emphasizing how internalization of extrinsic goals can lead to autonomous motivation. It will however be interesting to compare these findings with a sample selected from a regular master’s program which does not guarantee a placement at the end of the course. A comparison of this kind would strengthen the generalizability of the findings.

LIMITATIONS

A lot of precaution was maintained to reduce the biases in responses. The questionnaires were verified by four researchers other than the principal researcher to ensure the validity and clarity of the statements. The responses were collected using physical copies of questionnaires, clear instructions were provided by the researcher, a research assistant was present while the participants filled in the questionnaire just in case anyone had any clarifications to make. The participants were also provided a small stationery item as a reward for completing the questionnaire honestly. However, despite all these efforts the chances of error in reporting can’t be completely ruled out.

The data was collected just from one business school. The students in this school came from almost all states of the country and could be considered as representative of the general pool of MBA aspirants in the country, however it would be helpful to collect data from across various B schools in the country to cross validate the findings of this study.

In hindsight it seems like some questions could be redundant for some participants. For example, “I ask questions in class because” seemed a little irrelevant for some

students who never speak in class either because of shyness or disinterest. In the absence of the option “I do not ask questions in class” the students tended to respond “neither true nor untrue” for most statements in such questions.

Despite some limitations of the study, it can be considered as one of the initial steps in exploring the psychological antecedents of engagement in Business School students in India. It provides many insights that can be practically implemented by management educators to ensure that students engage more in the learning process.

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