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Relationship between Academic Boredom, Learning Climate and Academic Motivation Among University Students

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The present research aimed at exploring the relationship between academic motivation, learning climate (Autonomy supported) and academic boredom among university students. In addition to this it aimed at confirming the mediating role of learning climate in relationship between intrinsic motivation and academic boredom among students studying in Universities of Pakistan. For the present study data was collected from 399 university students. The age of the sample ranged from 17 to 35 years (M = 21.45, SD = 2.40). Reliability coefficients of all the variables ranged from .65-.89 (Class Related Boredom Scale = .89, Learning Climate Questionnaire =.88, Academic Motivation Scale = .82, Intrinsic Motivation = .81, Extrinsic Motivation = .81, and A Motivation =.65). Further correlational analysis indicated a negative relationship of classroom related boredom with learning climate and intrinsic motivation. However, class related boredom was found to have positive relationship with extrinsic and a motivation. Learning climate (autonomy supportive) showed positive relation with intrinsic motivation. Based upon literature, mediation analysis was carried out which confirmed the mediating role of learning climate (autonomy supportive) in relation between intrinsic motivation and academic boredom. In the light of existing literature, findings were discussed, and suggestions were given for future researches.

Keywords. Motivation, learning climate, academic boredom, intrinsic motivation, autonomy supportive learning climate

Academic success has been the focal aim of researchers for many years (Thomas & Mee, 2005). It has a direct association with

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academic boredom, as argued by Lewkowich (2010) boredom is a "muffled and elusive cry" (p.129) of pedagogy. Linnenbrink-Garcia and Pekrurn (2011) have also elaborated the negative and elusive impact of achievement related emotion, academic boredom, in learning activities. Although, academic success heavily relies on many contextual factors that motivate an individual to achieve desired goals and ambitions. Literature put focus towards the *learning climate,* that either have positive or negative impact on the performance of a student (Pekrun, 2006). However, motivational component incorporates multiple factors including; boredom as a decreased motivation to learn, motivation to leave class, quit learning, or delay it, motivation to do something else as opposed to considering, and lack of intrinsic motivation to learn (Pekrun et al., 2010). Classroom boredom studies indicate that students experience boredom thirty two percent of the time they spend in class (Larson & Richards, 1991). Similarly, Mann and Robinson (2009) study on boredom during lectures indicated that fifty nine percent of University students reported half of the time of lecture as boring while thirty percent reported most of the part of it to be boring. Current paper tends to investigate the relationship of two contextual factors with academic boredom i.e., learning climate and academic motivation. As little attention has been given to the issue of boredom within higher education (Mann & Robinson, 2009), universities need to actively work on creating environment that are favorable to student engagement, to facilitate greater student success. Active and collaborative environment, with inquiry-based and reflective curriculum, using targeted and constructive assessment, and motivating students both intrinsically and extrinsically would be able to fight boredom and can set the conditions for deep learning. Therefore, this paper has its relative importance in the higher education system to produce effective results.

Boredom has been recognized as an emotional experience of an individual that although is persistent but is low in relative intensity during the learning process (Pekrun, 2010). It is considered to be a negative feeling that diverts one's attention from current task (Eren, 2013), although hasn't been studied much in the educational settings (Aldridge & Delucia, 1989). In a review of studies on academic achievement Pekrun et al. (2002) identified only 43 studies on academic boredom relative to 1200 studies on anxiety. Pekrun and colleagues (2010) labeled boredom as "silent emotion" (p.531) as compared to other studied emotions such as anxiety. Boredom is among the nine academic emotions of the framework of Pekrun, Goetz, Daniels, Stupnisky, and Perry (2010) commonly experienced

by students in school. Boredom is perceived as less problematic because teachers do not perceive it as disrupting behavior or emotion that dysregulates the normal classroom functioning. In contrast, emotions such as anger are perceived as more threatening and disruptive as they effect the overall class room and are more overt in nature. But like anxiety, though boredom is covert, its outcomes can be lethal (Pekrun et al., 2010). It can negatively affect student's retention (Fisher, 1993), their academic performance (Pekrun et al., 2014), and even can lead to academic drop outs (Wegner, Flisher, Chikobvu, Lombard, & King, 2008).

Literature depicts positive relationship of learning and academic boredom (Daschmann, et al, 2011; Fisher, 1993; Belton & Priyadharshini, 2007) as well as boredom's association with lack of autonomous regulation, not being able to identify the importance of doing something (Niemiec & Ryan, 2009). In relation to diversion from the task, control theory assesses that student control and value assessment of the task are mainly affected by environmental components for example, cognitive quality, task demands, autonomy support, and objective structure (Pekrun, 2006). It can be argued that low control and value assessment are proximal elements for the occurrence of boredom; learning environment can be viewed as a distal factor that triggers distinctive cognitive evaluations (Pekrun, 2006). However, class related boredom is characterized as a feeling experienced during academic activities (Pekrun, 2006) and is affected by motivational segment (intention to leave boring situation) and cognitive part (belief that time is being dragged) (Pekrun et al., 2010; Tze, Daniels Klassen, & Li, 2013).

According to Dorman, Fisher, and Waldrip (2006) when we talk about environment in educational settings, it illustrates atmosphere and quality of that place. Quality of teaching styles may significantly affect student's motivation (Warterl, Walberg, & Hartel as cited in Lucas, Benedrak, & Pangaro, 1993) the sum of these styles is referred as learning climate. Labrin (n.d.) defined learning climate as the prevailing attitudes, standards, and environmental conditions of the educational settings. Likewise, environment that aims at building a positive collaborative relationship between teacher and student can bridge the gap between education and community (Ntalianis, 2010). It is evident from the earlier aforementioned studies that learning environment generates boredom and Daschmann (2011) discussed that quality of instructions (autonomy and support) can hinder boredom during lecture and creates opportunities for academic success. Similar idea was also supported by Belton and Priyadharshini (2007) that creation of an environment for empowering students with autonomy

and control would be effective in order to have less boredom in students while it is undoubtedly challenging and would require intrinsic motivation.

Motivation in school settings include anything that makes an individual eager to learn (Smith et al., 2005). In other words, it is a strong force that requires someone to get a degree (Clark, Middelton, Nguyen, & Zwick, 2014). It has strong connection with student emotions as Kim and Hodges (2012) illustrated it can bring positive change in academic performance of students (Ryan & Deci, 2000). Motivation can be described in three ways as per self-determination theory including; intrinsic (also referred to as autonomous motivation as it is driven by internal rewards or), extrinsic(driven by environmental rewards and punishments), and amotivation (state of lacking any motivation to engage in an activity).Academic motivation is also referred to as intrinsic motivation as it determines the attitude of individual towards the academic tasks and it effects the amount of time and energy the individual is willing to spend on a particular task. It also includes sustained efforts needed to accomplish the desired outcome (Ray, Garavalia, & Murdock, 2003). Wiessinger, Caldwell, and Bandalos (1992) suggests negative association between leisure boredom and intrinsic motivation. Students experience boredom when they are not actively engaged in the task and they feel compelled to participate in the classroom activity. They might view their participation as wastage of time and energy. Motivation has its prominent effect in learning and learning can be impractical without desired amount of motivation, as Rehman and Haider (2013) indicated that learning depends on the level of motivation, which increases a person's ability to learn better.

However, Black and Deci (2000) investigated effects of teacher's autonomy on motivation of students and results indicated positive experiences of students regarding the course. It can be implied that teacher's autonomy to students can produce positive emotions and lower level of boredom among students. Self-determination theory also highlights the role of social agents such as teachers, parents and coaches in determining motivation of students (Deci & Ryan, 2000; Vallerand, 2007). The mediating role of learning climate (autonomy support) in relation between intrinsic motivation and classroom related border has been established by earlier studies as well (Karagiannidis, Barkoukis, Gourgoulis, Kosta, & Antoniou, 2015). Intrinsically motivated individuals are likely to perceive environment more positively as they have an innate tendency to acquire knowledge and learn. When teachers provide supportive environment to these individuals that involve activities such as encourage participation,

provision of feedback, providing alternatives and choices, students are more likely to perceive environment as accepting and conducive to learning. These are also the core elements to autonomy supported learning climates (Reeve & Jang, 2006). This ultimately leads to less boredom effect among students.

As it has been established in the earlier paragraphs that boredom has not received much attention in educational research (Pekrun et al., 2002).However, scarce studies in the school settings indicate that boredom increases with time (Ahmed, Vander-Werf, Kuyper, & Minnaert, 2013). In Pakistan, boredom has been studied with reference to organizations (Sohail et al., 2012) and fashion consumer industry (Khalil, 2006), while educational settings were neglected. As Pekrun et al. (2014) urged both researchers and practitioners to give more attention to boredom owing to its importance with academic success, this study was aimed to assess the impact of learning climate and boredom among university students. Previous literature implied importance of student motivation in higher education (Afzal, Ali, Khan, & Hamid, 2010) in Pakistan. Current research aimed to assess academic intrinsic motivation in higher education as it has been established that academic intrinsic motivation declines from upper elementary to higher school years (Alderman, 2008), and Deci and Ryan (2000) also observed decrease level of motivation with the advancement of educational career. Higher education is booming in Pakistan from the last couple of decades with most universities introducing undergraduate, master's and PhD Programs. It would be interesting to analyze the motivation level, learning climate (autonomy supported) and academic boredom experienced by students.

Moreover, literature suggested negative association of academic boredom with learning climate (Tze et al., 2016) and intrinsic motivation (Barnett & Klitzing, 2006; Ntoumanis, 2001; Pekrun et al., 2002; Pekrun et al., 2014). In an environment where both teachers and students are competing for better academic performance in order to secure their future in the marks-oriented environment it is exceptionally important to ignore the side effects of pressure, anxiety and boredom. The research might be helpful to ease stressful environment and can help in yielding better performance of students.

Around the world educational researchers are arguing to use innovative ways to improve quality of education. In this competitive era, education is the key factor for economic and social booster of the country. Along with filling the literature gap as in educational settings of Pakistan researchers tried to focus perfectionism (Maryam, 2014), academic dishonesty (Khalid, 2014), academic performance (Ayub,

2010), and peer relationship (Khaushik & Rani, 2005). Although research on achievement emotions are slowly expanding, in Pakistan boredom has been extensively studied with reference to organizations (Sohail et al., 2012) and fashion consumer industry (Khalil, 2006). However, in academic settings it has been neglected. This research could be helpful in testing whether innovative and autonomy supporting learning environment can yield better results for students or not. Therefore, this research was carried out to fill out those literature gaps as well as to explore whether learning climate can be of a key role importance in the typical educational settings of Pakistan.

Method

Hypotheses

Keeping in view previous literature and theories, following hypotheses were phrased.

1. There will be a negative relationship between learning climate (autonomy supportive) and academic boredom.
2. There will be a negative relationship between academic boredom and intrinsic motivation.
3. There will be a positive relationship between extrinsic motivation, a motivation and academic boredom.
4. There will be a positive relationship between autonomy supportive learning climate and intrinsic motivation.
5. Learning climate (autonomy supportive) mediate the relationship between intrinsic motivation and academic boredom.

Instruments

Class Related Boredom Scale (CRBS). Eleven items on Class Related Boredom from achievement emotions questionnaire (AEQ) developed by Pekrun, Goetz, and Perry (2005) were used to evaluate the academic boredom among students. AEQ is a multidimensional self-report 5-point Likert type scale ranging from *"strongly disagree"* (1) to *"strongly agree"* (5) with scores ranging from 11-55. High score represents higher levels of class related boredom. The reported reliability of the scale is .93 (Pekrun, Goetz, & Perry, 2005).

Learning Climate Questionnaire (LCQ). Learning climate was assessed through 15 item Learning Climate Questionnaire (William & Deci, 1996). LCQ is a 7-point Likert type scale (*strongly disagree* to *strongly agree)* with scores ranging from 15-105, with only one

reverse item. The present study aimed to assess general learning climate where there was diversity of courses. Items were rephrased according to the instructions given by William and Deci (1996). The word instructor was replaced by instructors, class with classes, course with courses, and goal with goals. In previous researches reliability of this scale was reported to be .90 (Black & Deci, 2000; William & Deci, 1996). High score on the scale represents high perception of autonomy supported classroom environment (William & Deci, 1996).

Academic Motivation Scale (AMS). Developed by Vallerand et al. (1992) Academic Motivation Scale was used to measure intrinsic, extrinsic and a motivation among students. Academic Motivation Scale is a 7-point Likert type scale ranging from 1= *does not correspond at all* to 7 = *correspond completely.* The reliability of the subscale ranges from .75 to .86 (Vallerand et al., 1992). The instrument includes 28 items. A motivation items include 5, 12, 19, and 26 so the score can range from 4-28. Extrinsic motivation items include 1, 3, 7, 8, 10, 14, 15, 17, 21, 22, 24, and item 28 with scores ranging from 12-84. While intrinsic motivation item includes 2, 4, 6, 9, 11, 13, 16, 18, 20, 23, 25, and item 27 with scores ranging from 12-84. High score on each domain represent higher level of that specific type of motivation (Vallerand et al., 1992).

Research Design

The present study was a correlational cross-sectional research.

Sample. Employing the technique of convenience sampling data was collected from different public and private universities of Islamabad and Rawalpindi, including Quaid-i-Azam University, Arid Agriculture University, COMSATS Institute of Information and Technology, and Iqra University Islamabad. Age of the sample ranged from 17-35 years *(M* = 21.45, *SD* = 2.40*),* and education level from bachelor's to PhD.

Table 1

Frequency and Percentage along Demographic Variables (N = 399*)*

Variable	*f* (%)	Variable	*f* (%)
Gender		**Education**	
Male	209 (52.4)	Bachelors	183 (45.9)
Female	190 (47.6)	Masters	173 (43.4)
		M.Phil./PhD	43 (10.8)
		Universities	
		Public sector	216 (54.1)
		Private sector	183 (45.9)

Table 1 summarizes the descriptive characteristics of the sample. 52.4 % of the sample comprised of males whereas 47.6 % of the sample comprised of females. 54.1 % of the sample were from public sector universities whereas 45.9 % was from private sector universities.

Procedure. Prior to the administration of the questionnaires informed consent of the participants was taken. They were approached personally after taking permission from the concerned authorities. Students were requested to fill the questionnaires and they were briefed completely about the purpose and nature of the study. Guidelines were given both verbally and in written pattern to the members with the goal that they respond accurately. The confusions and the queries of the students were addressed by the researcher. Participants were assured that information taken will be kept confidential and will only be used for the research purpose. Further, it was assured that they can withdraw at any stage. At the end, participants and the authorities were thanked for their support and cooperation.

Results

To test the hypotheses of the present study quantitative analyses were carried out by using SPSS version 21. Pearson Product Moment correlation, linear regression, correlation and hierarchal regression analysis for mediating role of variable were applied.

Table 2

Descriptive statistics and Correlation Matrix between Class Related Boredom, Learning Climate, Intrinsic Motivation, Extrinsic Motivation, and Amotivation (N = 399).

Variables	*N*(α)	*M (SD)*	2	3	4	5
1. CRB	11(.89)	2.93 (.81)	-.39**	-.13**	.11*	.20**
2. LC	15(.88)	70.86(14.80)	-	.43**	.27**	-.19**
3. IM	12(.81)	54.42 (12.51)	-	-	.55**	-.06
4. EM	12(.81)	59.43 (14.86)	-	-	-	-.05
5. AM	4(.65)	11.25 (5.47)	-	-	-	-

Note. CRB= Classroom Related Boredom; LC= Learning Climate; IM=Intrinsic Motivation; EM= Extrinsic Motivation; AM= A Motivation.
*p<.05. **p<.01.

Table 2 indicates the acceptable alpha reliabilities of all the measures. Correlation indicates that learning climate (autonomy supportive) and intrinsic motivation are negatively related with class related boredom. Extrinsic motivation and a motivation shows positive relationship with class related boredom. Moreover, learning

climate (autonomy supportive) is positively related with intrinsic motivation and extrinsic motivation while negatively related with a motivation

Table 3
Hierarchical Regression Analysis for the Mediating Role of Learning Climate between Intrinsic Motivation and Class Related Boredom (N = 399)

	CRB				
	Model 1	Model 2		95% *CI*	
Variables	*β*	*β*	*S.E*	*UL*	*LL*
Constant	3.39***	4.37***	.21	4.77	3.96
IM	-.01*	-.003	.00	.01	-.00
Learning Climate		-.02***	.00	-.02	-.03
R^2	.02	.16			
F	6.95**	36.8***			
ΔR^2		.14***			

Note. CI = Confidence Interval; *UL* = Upper limit; *LL* = Lower Limit; IM = Intrinsic Motivation; LC = Learning Climate; CRB = Classroom Related Boredom.
***$p < .001$. **$p < .01$. *$p < .05$.

Table 3 depicts meditational analysis of the study. Model 1 significantly predicts relationship between intrinsic motivation and class related boredom and R^2value explain 2% variance in it. Model 2 explains that with addition of mediator i.e. learning climate additional 14% variance is explained. The relationship is completely mediated by learning climate (autonomy supportive). Sobel test (t = 6.15; $p < .01$) confirms the mediating role of learning climate (autonomy supportive) in the relationship between intrinsic motivation and classroom related boredom.

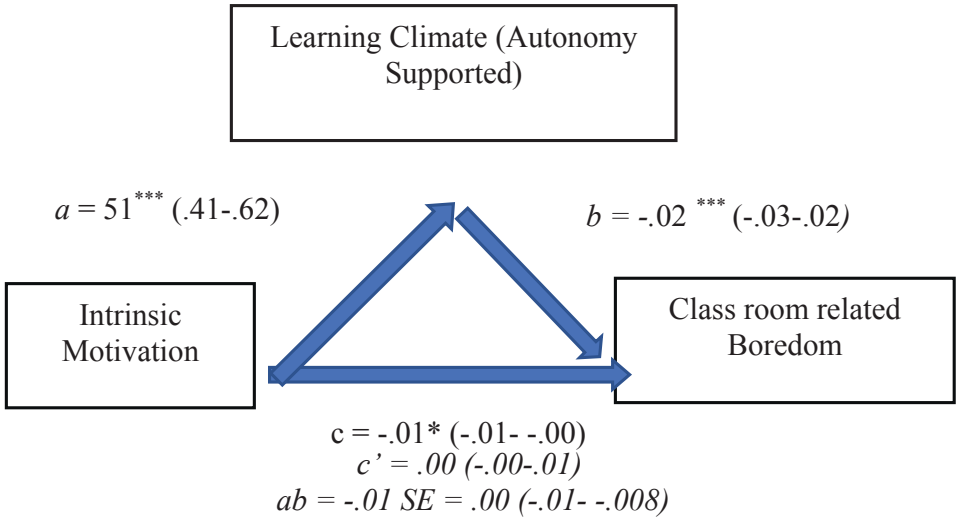

Fig 1. Mediating Role of Learning Climate between Intrinsic motivation and Classroom related Boredom

Discussion

Present study was aimed to find out the relationship between academic boredom, learning climate, academic motivation (intrinsic, extrinsic, and a motivation). Employing the technique of convenience sampling data was collected from 399 university students. The age of the sample ranged from 17 to 35 years. Internal consistencies of the scales were found to be satisfactory. These findings are consistent with previous researches conducted in Pakistan (Khalid, 2014; Maryam, 2014) that have used Academic Motivation Scale. Descriptive statistics suggests that the three instruments have satisfactory psychometric properties and skewness indicate normally distribution of the data as well.

Based upon existing literature, it was hypothesized that learning climate (autonomy supportive) would negatively affect academic boredom. Pearson product moment correlation was computed, and results depicted consistency with existing body of literature (Daschmann et al., 2011; Flunger et al., 2013; Tze et al., 2016). It has been argued that autonomy supportive environment can enhance a learner's ability to learn by reducing academic boredom (Belton & Priyadharshini, 2007; Fisher, 1993). These findings can be further elaborated in light of control value theory of academic boredom (Pekrun, 2006). The theory highlights that individuals in academic setting experience boredom because of multiple reasons and environmental factors are considered to be crucial in determining academic boredom. These factors include elements like cognitive quality, task demands, and objective structure as triggers or precursors of academic boredom (Sharp, Hemmings, Kay, Murphy, & Elliott, 2017). It can be said that absence of autonomy support from any environment can generate boredom, and educational settings are no different where if students feel less or no control it can trigger boredom. The results provide empirical support for the theory that how these environmental factors of over or under control can initiate boredom among individuals.

Negative association between academic boredom and intrinsic motivation was also hypothesized and the results are in line with the previous studies (Barnett & Klitzing, 2006; Kolloman & Wild, 2007; Ntoumanis, 2001; Pekrun et al., 2014; Weissinger, Caldwell, & Bandalos, 1992). Self-determination theorists associate the theory with academic (intrinsic) motivation and positive experience and emotions in the academic setting. Arguably, this can not only lessen the academic boredom but can also enhance academic satisfaction (Vallerand et al., 1993). Intrinsic motivation serves as a precursor for

higher academic achievement and attainment. It also leads towards positive perception of overall school or university climate and enhances the sense of perceived controlled over the environment. It can motivate and lead an individual to explore the learning environment and can positively influence the perception of learning climate as well. So, it can be inferred that intrinsic motivation serve as a driving force to enhance an individuals' learning experience. Additionally, control value theory (Pekrun, 2006) also explains that a low value of intrinsic motivation is a crucial trigger for the experience of boredom.

Third hypothesis of the study was that extrinsic and amotivation will be positively related to academic boredom. The results are consistent with the existing literature (Barnett & Klitzing, 2006; Niemiec & Ryan, 2009; Ntoumanis, 2001). Moreover, Vallerand et al. (1993) reported that amotivation and external regulation or external motivation were related to lower level of concentration with in the classroom settings. This can further lead to increased experience of negative emotions in classroom. These experiences lead to decreased interest in classroom activities and create troubles in regulating one's own emotions. It ultimately results in experience of academic dissatisfaction, and poor reported grades in school, college and university. Researchers also argue that students who are, extrinsically motivated tend to report more negative emotions than intrinsically motivated students even under autonomy-supportive circumstances (Kolloman & Wild, 2007).

Fourth Hypothesis likewise, was supported by literature showing positive relationship of autonomy supportive learning climate and intrinsic motivation. As indicated by Reeve and Jang (2006) autonomy support is an interpersonal behavior that one individual takes on towards another for the purpose of taking the purpose of the behavior. Autonomy support means identifying, supporting, and building students' internal motivational resources. Accordingly, an autonomy supportive teacher will look to recognize students' internal motivational resources by making classroom conditions great to help in a manner that promote internalization and increase intrinsic motivation (Reeve & Jang, 2006). It increases autonomous regulation toward oneself, apparent capability, and interest/enjoyment and decrease in anxiety over the semester. An autonomy supportive environment also gives the student a perceived sense of control over the learning process. This sense of control can not only enhance the relationship with peers and increase the sense of relatedness with the classroom environment but can also lead to positive academic outcomes (Akram, Sultan, & Ijaz, 2014; Kaplan & Assor, 2012; Genn,

2001; Lombarts, Heinman, Scherpbier, & Arah, 2014; Ntalianis, 2010; Reeve & Jang, 2006).

Fifth hypothesis aimed at confirming the mediating role of learning climate between intrinsic motivation and academic boredom. The mediating role of climate has been explored and confirmed in previous researcher related to organizational settings (Imran & Haque, 2011). Using the similar framework, the present research aimed to confirm the mediating role of learning climate between intrinsic motivation and academic boredom in academic settings. Hierarchical regression analysis was used, and the findings indicated that learning climate (autonomy supportive) mediated the relationship between intrinsic motivation and academic boredom. Based on existing literature of negative association of intrinsic motivation with boredom (Barnett & Klitzing, 2006; Ntoumanis, 2001; Pekrun et al., 2002; Pekrun et al., 2014), and positive association of intrinsic motivation with learning climate (Akram, Sultan & Ijaz, 2014; Genn, 2001; Lombarts, Heinman, Scherpbier, & Arah, 2014; Kaplan & Assor, 2012; Ntalianis, 2010; Reeve & Jang, 2006) mediation was carried out for the current paper. Literature implied that intrinsic motivation enhances a learner's perceived ability to regulate environment leading to perception of more positive environment and better regulation of emotions. This enhanced positive perception elevates the perceived control over the environment. Coupling together could decrease boredom emotion and improves positive outcomes like performance and persistence (Karagiannidis, Barkoukis, Gourgoulis, Kosta, & Antoniou, 2015; Vansteenkiste, Simons, Lens, Sheldon, & Deci, 2004).In the light of self-determination theory, there exists an innate ability among individuals to lean and enhance one's knowledge referred to as intrinsic motivation to learn. This innate need enhances an individual's ability to seek support from outer environment. Autonomy supported learning environment in this context enhances an individual's competence, relatedness, self-regulation learning and wellbeing. Learning climate which is supportive can leads to better comprehension (Deci, Corrnel, & Ryan, 1989), learners' motivation, self-confidence and moral (Abraham, Ramnarayan, Vinod, & Torke, 2008; Lucas, Bendak, Panagaro as cited in Lombarts et al., 2014). Experience of all these positive aspects can thus lower the experience of academic boredom (Niemiec & Ryan, 2009; Tze et al., 2016).

Conclusion

The present research provides a better insight to academic sector and guide teachers how they can deprive their students from boredom by increasing their involvement in the classroom. Learning climate

within the control of educators has a strong relationship to student's experience of boredom. Further, classes can be made meaningful by giving student's choice and involving them in class-room activities. By improving learning climate universities can control student's boredom. In this way their academic performance can be improved. Different activities can be incorporated to reduce boredom and escalate interest of students during classes. The present study is attempted to associate learning environment with academic boredom and motivation of students.

Limitations and Suggestions

Future researchers can explore whether our findings of relationship between autonomy supported learning climate, academic motivation and academic boredom varies across different context and sample. The sample of the study includes only University students so; results are not generalizable to college, or school students. Further, researches could assess the generalizability of these findings across school and colleges students as well. The nature of research was correlational and cross-sectional. So, conclusions about causality could be tempered. Employing a longitudinal design can help to overcome this limitation. Moreover, data was collected only from Rawalpindi and Islamabad; future researchers can include more cities for comparative analysis. Further the present research only explored the mediating role of autonomy supported learning climate in relationship between intrinsic motivation and academic boredom, future researchers can empirically test the relationship of extrinsic and a motivation in similar contexts. Additionally, the role of demographic variables needs to be explored further.

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