Research article

Amotivation and influence of teacher support dimensions: A self-determination theory approach

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A B S T R A C T

Based on self-determination theory the study seeks to examine influence of teacher autonomy support, structure and relatedness support on amotivation of middle school students. This correlational study based in Indian subcontinent establishes that all three dimensions of teacher support (i.e., teacher autonomy, teacher structure and teacher relatedness support) reduces amotivation however teacher structure have the strongest influence. No gender and age differences were reported for the study. Study highlights the importance of reverse side of motivation (amotivation) and predicates that teacher support is essential not only in increasing motivation but also in reducing amotivation. Training teachers is necessary to increase their ability of providing autonomy support, structure and relatedness support.

1. Introduction

Amotivation is the lack or absence of volitional drive to engage in any activity (Deci and Ryan, 1985) resulting from non-self-determined motivation (Markland and Tobin, 2004). Academic behaviour of adolescents is based either upon intrinsic or their extrinsic drives (Csikszentmihalyi and Nakamura, 1989).

Amotivated children are neither intrinsically nor extrinsically driven and avoid engaging in academic tasks as they perceive no significant relationship between their actions and its outcomes (Pelletier et al., 2001; Vallerand et al., 1992). Thus, these children show no intent of expending effort towards activities which are uncontrollable (Brown-Wright et al., 2013). Amotivated learners remain passive in class, display fake classroom engagement or just continue with the task without deep engagement (Cheon and Reeve, 2015), do not follow classroom instructions and barely show any kind of adherence to it (Terrier et al., 2018).

Amotivation results in several negative consequences such as reduced engagement in constructive activities (Pelletier et al., 1999), lower academic persistence (Pelletier et al., 2001), lack of involvement and commitment (Terrier et al., 2018), lower effort and enjoyment (Ntoumanis, 2001, 2002) as well as higher stress (Baker, 2004), higher test anxiety due to low ability beliefs (Saravanan and Kingston, 2014), and reduced value of academic tasks as well as increased boredom (Legault

et al., 2006; Ntoumanis, 2001, 2002). Apart from causing negative classroom outcomes, prolonged amotivation also has long term negative consequences as lowering attendance, lowering intention to persist in future activities causing dropout (Ntoumanis et al., 2004; Ricard and Pelletier, 2016; Vallerand et al., 1997).

2. Demotivation vs amotivation

Demotivation is a situation where external negative factors reduce motivation for those who were previously motivated to act (Dörynei, 2005; Dörynei and Ushioda, 2013). Researchers endorse that demotivation is not caused due to better alternative task options, or declining interest or due to innate reasons (Chong et al., 2019) or loss of existing motivation but rather due to a hindrance caused in the path of positive motivation (Noviantoro, 2017) or misuse of motivational strategies in a classroom situation thereby reducing intention to act (Dörynei, 2001). Demotivation can sometimes lead to amotivation (Yan, 2009) where child feels helpless and incompetent in attaining desired results through his actions, which has nothing to do with his initial motivation level (Deci and Ryan, 1985; Ryan and Deci, 2000a). Amotivation is mainly related with inability to reach a desired outcome (Vallerand et al., 1993) or unrealistic beliefs regarding outcome of a task (Dörynei and Ushioda, 2013), while demotivation is concerned with environmental factors that diminish initiation of action (Chong et al., 2019; Yan, 2009). Thus,

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external negative demotivating influences can promote internal negative amotivating orientations.

3. Different motivational orientation based on levels of self-determination

According to Self-determination theory (SDT) (Deci and Ryan, 1985) children may develop different kinds of motivational orientation based on level of self-determination possessed (Oga- Baldwin et al., 2017; Wang et al., 2019). Self-determination can simply be explained as presence of volitional choice while engaging in an activity, and perceiving an internal locus of control, without feeling any external pressure to perform (Deci and Ryan, 2000; Niemiec and Ryan, 2009). Different levels of self-determination lead to different reasons of academic engagement and result in different academic outcomes (Vallerand et al., 1992, 1993). *Intrinsic motivation* is the most self-determined form of motivation where tasks are performed to gain satisfaction, pleasure and enjoyment without any kind of external pressure or incentive and results in most adaptive educational outcomes (Deci and Ryan, 1985; Pelletier et al., 1995). Sometimes intrinsic motivation may be undermined due to presence of contextual pressure which results in different levels of non-self-determined forms of motivation as integrated, identified, introjected and external orientations (Ryan and La Guardia, 1999). *Integrated motivation* is associated with comparatively lower level of self-determination than intrinsic motivation, as here the child performs a task because it is aligned with other life goals, and thus based on instrumental value of task and not entirely pleasure oriented (Ryan and Deci, 2000a; Vallerand et al., 1992). This is followed by *identified motivation* where tasks are performed because they are valued by society (i.e., tasks important for life and career) and the child gradually integrates this external demand lowering their self-determination towards the task (Deci et al., 1994; Ryan and Deci, 2000b). A higher non-self-determined form of motivation is *introjected motivation* where child performs to maintain self-esteem, avoid guilt of failure, or out of fear of being marked as non-performer (Deci and Ryan, 2008; Ryan, 1982). In case of identified motivation, the child integrates an external demand for self-benefit while in case of introjection it is done to please others. The most non-self-determined form is *extrinsic motivation* where performance occurs only on provision of material rewards or incentives. Here the level of self-determination is extremely low as the behaviours are mostly guided by external factors and will not be initiated in absence of material rewards (Deci and Ryan, 1991). *Amotivation* is the motivational orientation having complete absence of self-determination as the children does not perceive any intrinsic or extrinsic reason of participation, because participation does not bring about desired outcomes (Deci and Ryan, 2002).

4. Amotivation as a construct

Some researchers have seen amotivation as an unidimensional construct and as a state opposite to both intrinsic and extrinsic orientations (Bandura, 1986; Markland and Tobin, 2004; Vallerand et al., 1992). Amotivated children feel their actions are controlled entirely by social contexts and are not volitional (Ricard and Pelletier, 2016). This is similar to the concept of global helplessness beliefs where the child feels it is difficult to influence the environmental situations by their actions (Pelletier et al., 1999). Thus, lack of competence beliefs or control over situation leads to amotivation (Deci and Ryan, 1985; Mazyari et al., 2012). In this situation individual perceives no connection between their behaviour and its ability to create change, thus feeling incompetent and unable to control the environment (Vallerand et al., 1992). It is a state where children are unsure about their reason of engagement or does not engage at all (Cheon and Reeve, 2015).

In later studies researchers classified amotivation (environmental perspective) as a multidimensional construct having four factors; as strategy beliefs, ability beliefs, effort beliefs and helplessness beliefs affecting it (Pelletier et al., 1999; Vallerand, 1997). *Strategy beliefs* is

related to individual's actions being controlled by future outcomes (Bandura's outcome expectancy, 1977, 1982) and amotivation occurs if actions do not lead to required outcomes (Skinner et al., 1990). *Ability beliefs* are one's belief that one lacks required ability and *Effort beliefs* are one's belief that required amount of effort cannot be continued for a long time and finally, *helplessness beliefs* are feeling of powerlessness in controlling outcomes of one's behaviour. The above classification was modified to suit academic domain in the work of Legault et al. (2006) who made a four-fold classification such as amotivation due to low ability, amotivation due to low effort, amotivation from not valuing a task, and finally amotivation due to task characteristics (Cheon and Reeve, 2015; Green-Demer et al., 2008; Legault et al., 2006; Shen et al., 2010) retaining two dimensions of earlier model.

Ability beliefs (Bandura's self-efficacy, 1977, 1982) are an individual's belief that certain behaviour is capable of bringing about desired outcome but they lack ability to perform those necessary behaviours (Pelletier et al., 1999; Shen et al., 2013). Children possessing higher self-efficacy have lower amotivation, enjoy challenges and show persistence, compared to children with low self-efficacy (i.e., low ability beliefs) who are often pessimistic, lack self-confidence, attribute academic problems to lack of ability, expend little effort or quit easily considering the task though possible but beyond their capacity (Pelletier et al., 1999; Wigfield and Eccles, 2000).

Effort beliefs can cause amotivation when student lack the intention to expend effort (Shen et al., 2013; Vlachopoulos et al., 2013) because they believe it will not be possible to put in required effort, or persist with same amount of effort when faced with difficulty or integrate these required behaviours into their life (Legault et al., 2006; Pelletier et al., 1999). In this case students are aware about the actions required on their part and feel capable of performing it but do not initiate effort as they fear inability in sustaining it (Legault et al., 2006).

Placing little or no *value* on academic tasks (i.e., amotivation-low task value) means there exists no intrinsic or extrinsic incentive to participate (Ryan, 1995) which increases amotivation and task avoidance (Vlachopoulos et al., 2013). A boring, uninteresting or unappealing task may still be undertaken because of its value and later on internalised by children (Legault et al., 2006). But integration of external demands will not occur for tasks which have no value to the child (Ryan and Deci, 2000a). Thus, considering an academic task as having insufficient values (Shen et al., 2013) or being devalued by significant others leads to amotivation (Murdock, 1999; Wigfield and Eccles, 2000). Social contexts (parents or teachers) can create negative perception about school or academics and devalue the importance of educational tasks leading to amotivation (Shen et al., 2013).

Amotivation-task characteristics occurs when tasks are boring or unappealing which are unable to develop interest in classroom (Shen et al., 2013; Vlachopoulos et al., 2013). SDT theory states intrinsic motivation develops mostly in case of tasks which are interesting, enjoyable and stimulating (Ryan and Deci, 2000a). All academic tasks a child needs to perform are not interesting or pleasurable (Deci, 1992; Ryan and Deci, 2000a) which often lead to external orientations (Niemiec and Ryan, 2009) and amotivation (Legault et al., 2006). Present study measures amotivation as a unidimensional concept instead of multidimensional construct as adolescents have not yet developed a clear idea about the various types of amotivation.

Thus, amotivation can result from personal factors as learned helplessness, efficacy beliefs, effort beliefs, task having no personal value, task being uninteresting (Cheon and Reeve, 2015), or due to external reasons as low need supportive environments (Legault et al., 2006; Ntoumanis et al., 2004) or performance goal-based classroom climate (Sarrazin et al., 2002). Social contexts can be mastery motivating or performance oriented while the former emphasizes choice in academics, believe in cooperation and assesses individual's progress whilst the latter stresses competition, no choices and comparative evaluation (Ames, 1992). The performance-oriented classroom climate has been found to thwart basic psychological needs and promote

amotivation (Ntoumanis and Biddle, 1999). Again, low need supportive controlling social contexts (such as classroom context) can reduce the level of self-determined motivation in children and increase amotivation (Pelletier et al., 2001).

5. Social context, need frustration and amotivation

Basic psychological need theory (Deci and Ryan, 2000) (i.e., a mini theory of SDT) states that level of self-determination is influenced and improved by supportive social contexts in the form of home or school (Diseth et al., 2017; Vallerand et al., 1997). The supportive school contexts (teachers) can even help students to move from state of amotivation to intrinsic motivation through internalisation of external demands (Legault et al., 2006; Ntoumanis et al., 2004; Sarrazin et al., 2002). Internalisation occurs when the child integrates the initial externally driven tasks and starts to perform them volitionally (Niemiec and Ryan, 2009; Ryan & Deci, 2000a, 2000b). Social contexts (classroom context) which satisfy basic psychological needs of autonomy, competence and relatedness are considered supportive and helps in internalisation process thus lowering amotivation (Chirkov and Ryan, 2001; Legault et al., 2006). Autonomy is the need to perceive volitional choice and internal locus of control during initiating or performing a task and a complete freedom from external pressure (Diseth et al., 2017; Oga-Baldwin et al., 2017). Competence is the belief that one has the ability to successfully perform a task and achieve desired results, and has the ability to improve performance through effort (Farkas and Grolnick, 2010; Stroet et al., 2013). Relatedness is the desire to feel loved, valued and accepted by peers and teachers, feel a sense of belongingness to a social context (Furrer and Skinner, 2003; Sparks et al., 2016). Fulfilment of above needs leads to internalisation of initial external regulations thereby reducing amotivation by enhancing self-determination (Niemiec and Ryan, 2009).

6. Need dissatisfaction vs need thwarting (frustration)

Need dissatisfaction represents a situation where environmental factors are perceived to be inactive or passive in satisfying one's needs or where the child's perceived needs are not met due to his prior low motivation (Ntoumanis, 2001, 2005), due to age or gender differences (Dever and Karabenick, 2011; Diseth et al., 2017; Hakan and Munire, 2014; Soenens et al., 2007) and due to low ability (Valenzuela et al., 2020). These social contexts though low in need supporting capacity, does not actively thwart child's need (Soenens et al., 2017). *Need frustration* occurs when the environmental factors are perceived to actively thwart one's needs (Bartholomew et al., 2011) such as being pressurised to act against will by controlling teachers frustrating the need of autonomy, receiving demeaning teacher feedback targeted towards ability instead of effort frustrating competence needs, and being isolated by peers leading to frustration of relatedness need, cause amotivation in students (Cheon et al., 2016).

7. Need supportive teachers and amotivation

Present study chose to investigate the influence of teacher as a social context in reducing amotivation as teacher support for basic psychological needs are found to be have much stronger influence in reducing amotivation than that of parents or peers (Furrer and Skinner, 2003; Ke and Aruta, 2017). Teachers not only take the responsibility of reducing amotivation but also improving motivation through need satisfaction (Cheon et al., 2016). Supportive teachers provide autonomy support, structure and relatedness support to satisfy basic psychological needs, facilitate internalisation and reduce amotivation (Wang et al., 2019). Conversely, non-supportive teachers are controlling, create chaotic classroom and reject emotional needs, which frustrates basic psychological needs and enhances amotivation (Cheon and Reeve, 2015; Guay et al., 2008; Mazyari et al., 2012). Again, neutral teachers though low in need thwarting may not actively support basic psychological needs (Soenens et al., 2017).

Autonomy supportive teachers who provide choice (Koh and Frick, 2010; Assor et al., 2002), use rationale for a task (Roeser et al., 1998), respect student perspective (Kaur et al., 2014) are found to increase motivation and reduce amotivation. On the other hand, controlling teacher avoid provision of rationale (Assor et al., 2005), use controlling language (Diseth et al., 2017), incentives (Nunez and Leon, 2015), disregard student perspectives (Kaplan, 2017) all of which promotes amotivation.

Teachers creating a structured classroom environment through clear expectations (Wentzel et al., 2016), consistent guidelines (Kirschner et al., 2006), monitoring of progress (Jang et al., 2010) and effort based constructive feedback (Assor and Kaplan, 2001) tend to enhance motivation and reduce behavioural problems and amotivation, while the teachers in a chaotic classroom set unrealistic expectations (Daniels and Arapostathis, 2005), provide inconsistent guidelines (Skinner et al., 2005) and ability based feedback (Wentzel, 2002) resulting in extrinsic or amotivational orientations.

Teachers' relatedness support in the form of affection (Košir et al., 2007) reduces amotivation as it fosters a sense of belongingness in classroom (Close and Solberg, 2008) and sense of proximity towards teacher (Brok den et al., 2005) who is perceived as dependable (Lee, 2007). Conversely, teachers who dissatisfy feelings of classroom belongingness (Faircloth and Hamm, 2005), are authoritarian with less affection (Dever and Karabenick, 2011) and the ones fostering amotivation.

8. Rationale

Earlier studies accounted that amotivated students perform better in need supportive classroom contexts compared to traditional classes (Ntoumanis et al., 2004; Perlman 2012a, 2012b, 2015). Teacher support can be beneficial in sustaining motivation and reducing amotivation in case of students who lack parental or community support (Hardre and Reeve, 2003). Teacher need support can help reduce maladaptive outcomes in children through lowering amotivation (Vallerand et al., 1997). On understanding the importance of teacher need support, present researchers seek to investigate whether positive dimensions of teacher support are useful in reducing amotivation among middle school children in an Indian sub-continent.

Most of the studies on academic motivation investigate intrinsic or extrinsic orientations while amotivation is studied only as an opposing situation (Cheon et al., 2018; Edmunds et al., 2008; Tessier et al., 2008). This is because amotivation is difficult to measure as children who are amotivated do not participate in the first place making it difficult to evaluate their level of motivation (Ntoumanis et al., 2004). Present researchers isolate the dimension of amotivation from intrinsic and extrinsic motivation to examine how teacher need support can reduce it and develop adaptive outcomes.

Self-determination theory states amotivation mainly results due to frustration of autonomy, competence and relatedness needs and multidimensional amotivation construct shows each type of amotivation occurs from frustration of a specific need such as low ability amotivation beliefs and feelings of learned helplessness due to frustration of competence need, performing task which have no value for the child or unappealing under external pressure reducing autonomy, and isolation in group tasks causing relatedness need frustration (Cheon et al., 2016). While lack of autonomy supportive contexts can cause extrinsic motivation (Deci and Ryan, 2000), when other two needs are also thwarted it results in amotivation (Ntoumanis et al., 2004). Thus, the researchers study all the three needs in conjunction, and try to find their unique and combined effects upon amotivation.

Adolescence period is chosen for conducting this research as shift from intrinsic to extrinsic orientations occurs during this period (Hakan and Munire, 2014). There is a clear decline in motivation as one transit to middle school (Anderman and Midgley, 1997). Transition to middle school causes frustration of previously satisfied basic

psychological needs and affects motivational orientation (Gillet et al., 2012). Research shows that cause of amotivation is not mere pubertal change but non supportive middle school environment (Midgley, 1993). Researchers felt it is necessary to examine positive effect of teacher need support dimensions in relation to amotivation of middle school children.

9. Research questions

This study examines the effects teacher autonomy support, teacher structure and teacher relatedness support on amotivation of children belonging to traditional cultures. While both intrinsic and extrinsic motivation and their determinants are widely studied, amotivation is not much focused. It is important that alongwith improving motivation, the level of amotivation should also be lowered. With the perspective of self-determination theory (SDT) present study investigated the following research questions:

(a) Is there any association between teacher autonomy support and amotivation of middle school children?
(b) Is there any association between teacher structure and amotivation of middle school children?
(c) Is there any association between teacher relatedness support and amotivation of middle school children?
(d) Whether the three dimensions of teacher support (i.e., autonomy support, structure and relatedness support) have an additive influence on amotivation?
(e) Is there any significant difference in amotivation with respect to age and gender of the middle school children?

10. Methodology

10.1. Participants and procedure

This correlational survey comprised of 115 middle school students (Boys = 65, Girls = 50; 36 = 6th graders; 41 = 7th graders, 38 = 8th graders; age = 11–14 years; Mean age = 13.02 years) from urban English medium (govt. and private) schools in the city of Kolkata, West Bengal, India (a highly populated cosmopolitan city of eastern India). Simple random sampling method was used in selecting schools and students (from each grade). To control for extraneous variable vocational or work oriented schools and children with special needs were excluded. After ethical approval from Research Advisory Committee, Department of Education, University of Calcutta, the schools were approached. Signed informed consent from all participants and prior permissions from all school principals were obtained before initiating the survey, and participants had the right to withdraw at any time or decline to participate without any negative consequences. Researchers briefed about the proposed research, provided directions for filling out questionnaires, explained the requirement of correct information, and assured confidentiality and anonymity of responses. Survey was completed in 50 min with 10 min interval between questionnaires. All the questionnaires were self-report instruments filled by students. No data was obtained from parents or teachers (see Figure 1).

10.2. Measures

Using *Modified Kuppuswamy scale (2017)* demographic and socioeconomic information was gathered. The socioeconomic status was
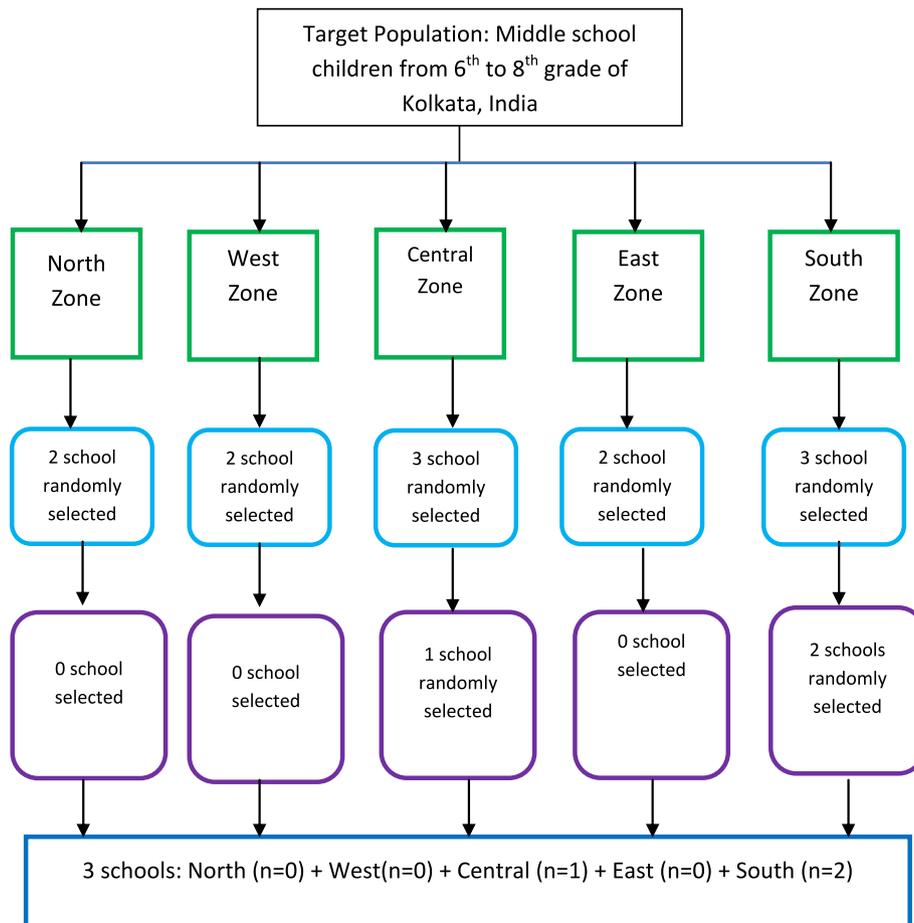

Figure 1. Flowchart of Sampling Procedure.

assessed based on parental occupation, level of education, and monthly family income, which were measured separately and combined to form socioeconomic index.

Academic Motivation Scale middle school (AMS) ([Kozok, 2012](#)), a modified version of Academic Motivation scale high school version ([Vallerand et al., 1992](#)) measured amotivation. Scale consists of 28 items examining seven types of motivation: three forms of intrinsic motivation (viz. intrinsic motivation to know, to accomplish things, to experience stimulation), three forms of extrinsic motivation (viz. external, introjected, identified regulation) and amotivation (4 items). Items are measured on 5-point scale range where (5) denotes *corresponds exactly* and (1) signifies *does not correspond at all*. Items were like *"I can't see why I go to school and frankly, I couldn't careless"*; *"I don't know, I can't understand what I am doing in school."* Instruments were standardized based on a pilot study on 65 children. The inter item-dimension validity for AMS ranged from .550 to .857 ($p < 0.01$) and Cronbach alpha is .876. Dimension-wise reliability coefficients are .816 (intrinsic motivation), .856 (extrinsic motivation) and .760 (amotivation).

Teacher as a social context questionnaire (TASCQ; [Belmont et al., 1988, 1992](#)) is a 24-item scale which measures three dimensions of teaching style viz. Autonomy support, Structure and Relatedness support (8 items for each dimension). Each dimension had 4 subdimensions: *Autonomy support* (viz. Choice, Control, Respect and Relevance), *Structure* (viz. Expectations, Contingency, Help and Monitoring), *Relatedness support* (viz. Affection, Attunement, Dedication of Resources and Dependability) assessed by 2 items each. Items of *relatedness* were as *"I can't depend on my teacher for important things"*; *"My teacher just doesn't understand me"*; for *structure* were *"My teacher doesn't tell me what he/she expects of me in school"*; *"Every time I do something wrong, my teacher acts differently."*; for *autonomy* were *"My teacher doesn't give me much choice about how I do my schoolwork"*; *"My teacher doesn't explain why what I do in school is important to me."* All items are scored on a 4-point scale from 'not at all true (1)' to 'very true (4)'. The Cronbach alpha for total TASCQ scale was .813 (all 12 positive items) and .746 (all 12 negative items). Dimension-wise reliability coefficients were found to be .759 (relatedness support positive), .572 (relatedness support negative), .635 (Structure positive), .576(Structure negative), .239 (autonomy support positive) and .453 (autonomy support negative) while Inter item-dimension validity ranged from -0.753to 0.691 ($p < 0.01$).

Despite low reliability coefficients of autonomy support subscales, the researcher retained those in order to study three psychological needs in unison, autonomy support being the central need among all three. Reliability increases with increase in number of test items while subscales of autonomy support, structure and relatedness support have only eight items each causing low reliability. Each of the three subscales contained reversed items that may have caused low value of alpha. Lack of unidimensionality, i.e., items of all the three subscales of autonomy support, structure and relatedness support assess four subdimensions rather than a single dimension, causing low Cronbach alpha for each of the subscales as the subdimensions are weakly correlated with each other. Thus, low Cronbach alpha occurs from three subscales of autonomy support, structure and relatedness support having conceptual variation. Some items if deleted would have increased the alpha but were retained to study the effect of the subdimensions. Teacher scale has no total score so obtaining one would be meaningless in context of this article, otherwise the Cronbach alpha of entire scale would have been greater. Moreover, the scale is valid so it can be accepted despite some subscales having low reliability.

10.3. Statistical techniques

SPSS 25 package was used for conducting all statistical analyses. Pearson correlation and linear regression explained unique effects of dimensions of teacher support on amotivation while for examining additive and interactive effects of dimensions, stepwise and hierarchical multiple regression was conducted. For exploring the influence of categorical variables, t test and One-way ANOVA was used.

11. Results

11.1. Preliminary analyses

11.1.1. Normality of data

Normality of data was checked before conducting statistical analyses ([Table 1](#)). According to Central Limit theorem which states for large samples ($n > 30$), the sampling distribution approaches normal distribution for sample size ($n = 115$) of this current study ensuring normality of data. The skewness and kurtosis of variables were also checked for normality purposes; skewness and kurtosis for teacher autonomy support were found to be -.072 and -.229, for teacher structure were -.401 and -.166, for teacher relatedness support were found to be .087 and -.467, and for amotivation were found to be 1.3 and 1.1 respectively. Researchers differ regarding what should be the acceptable range of skewness and kurtosis for data normality, for some it is from -1.5 to 1.5 for skewness and kurtosis ([Tabachnick and Fidell, 2013](#)), for others $-2 < sk < 2$ and $-7 < k < 7$ is acceptable ([Bryne, 2016](#); [Field, 2011](#); [George and Mallery, 2016](#); [Gravetter and Wallnau, 2012](#); [Ryu, 2011](#); [Trochim and Donnelly, 2006](#)) while some opine deviation from normality is not severe if $sk < 3$, $ku < 10$ ([Kline, 2011](#)). [Hair et al. (2010)](#) and [Bryne (2010)](#) propose for$-2 < sk < 2$ and $-7 < k < 7$ is acceptable for assuming multivariate normality for data set.

11.1.2. Descriptive statistics and preliminary analysis

Means and SD of amotivation ($M = 9.78$, $SD = 4.588$), teacher autonomy support ($M = 2.62, SD = .469$), teacher structure ($M = 2.88, SD = .489$) and relatedness support ($M = 2.69, SD = .530$) all are within expected range ([Table 1](#)). Amotivation differed between boys ($M = 10.39$, $SD = 4.984$) and girls ($M = 8.98, SD = 3.921$), with girls showing less mean amotivation and between sixth graders ($M = 9.13, SD = 3.352$), seventh graders ($M = 10.07, SD = 4.883$) and eighth graders ($M = 10.08$, $SD = 5.277$). Necessary preconditions for linear and multiple regressions, ANOVA and t test were checked. Pearson correlations conducted between amotivation, dimension of teacher support and showed significant associations conducive for further statistical analysis.

11.2. Testing the hypotheses

11.2.1. Correlation among variables

The correlation matrix reveals significant correlation between amotivation and dimensions of teacher support, viz. teacher autonomy support ($r = -0.347, p < .001$), teacher structure ($r = -0.378, p < .001$), teacher relatedness support ($r = -0.316, p = .001$) (Table A.1).

Sub-dimensions of teacher autonomy support viz., *Control* ($r = .289$, $p = .002$), *Relevance* ($r = .236, p = .011$), of teacher structure viz. *Expectation* ($r = .344, p < .001$), *Monitoring* ($r = -.306, p = .001$) and teacher relatedness support viz. *Affection* ($r = -.213, p = .022$), and *Dependability* ($r = .200, p = .032$) were significantly correlated with amotivation with *Monitoring* having the strongest association while the remaining sub-dimensions showed insignificant correlation. As Pearson correlations showed significant associations it provided evidence that it is conducive to conduct regression analyses (Tables A.2, A.3 and A.4).

11.2.2. Linear regression analyses

Three Linear Regression analyses were done to examine individual effects of teacher support dimensions on amotivation and to find which of the dimensions has strongest influence. Teacher relatedness support ([Table 2](#)) explained 10% ($R^2 = .100$) variation in amotivation, which is negatively significant ($\beta = -0.316$) ([Cohen, 1988](#)). F value indicates $F (1, 113) = 12.529, p < .001$ significance of the model at $p < .05$ level, with a significant t value ($t = -3.540, p < .001$) and regression equation as $\hat{Y} = 17.112–2.731X$.

Teacher structure ([Table 3](#)) explained 14.3% ($R^2 = .143$) variation in amotivation, which is negatively significant ($\beta = -0.378$) ([Cohen, 1988](#)). F value indicates $F (1, 113) = 18.828, p < .001$ significance of the model

Table 1. Descriptive statistics of amotivation and teacher support dimensions.

	Mean	Std. Deviation	Skewness		Kurtosis	
			Statistic	Std. Error	Statistic	Std. Error
A	9.78	4.588	1.3	.226	1.1	.447
T_{AS}	2.62	0.469	-.072	.226	-.229	.447
T_S	2.87	0.489	-.401	.226	-.166	.447
T_R	2.68	0.530	.087	.226	-.467	.447

Note. T_{AS} = Teacher autonomy support; T_S = Teacher structure; T_R = Teacher relatedness support; A = Amotivation.

Table 2. Regression analysis of amotivation of students on teacher relatedness support.

Factor	Predictor	R^2	F	Unstd. Coeff B	SE_B	β	t
A	T_R	.100	12.529***	-2.731	.771	-.316	-3.540***

Note. T_R = Teacher relatedness support; A = Amotivation of Students.
***p < .001.

at $p < .05$ level, with a significant t value ($t = -4.339$, $p < .001$) and regression equation as $Ŷ = 19.962–3.542X$.

Teacher autonomy support (Table 4) explained 12.1% ($R^2 = .121$) variation in amotivation, which is negatively significant (β = -0.347) (Cohen, 1988). F value indicates $F (1, 113) = 15.491$, $p < .001$ significance of the model at $p < .05$ level, with a significant t value ($t = -3.936$, $p < .001$) and regression equation as $Ŷ = 18.681–3.396X$.

11.2.3. Stepwise Regression

Stepwise Regression analysis was conducted to find the additive effect of teacher autonomy support, teacher structure and teacher relatedness support on amotivation of students, In Step 1, only teacher structure was entered while the other two variables got excluded indicating no additive effect.

11.2.4. Effect of categorical variables (age and gender)

Independent sample t-test was conducted to find gender differences in amotivation. As null hypothesis of Levene's test *rejected* ($4.780, p = .031$) so equal variances not assumed row was read while interpreting the t-test results. The t-test shows ($t = 1.701$, $p = .092$, $MD = 1.412$) that gender wise difference in amotivation does not exist (Table A.5).

One-way ANOVA was performed to discover age wise differences in amotivation with changing grade level. The Levene's statistic = 1.747, $p = .179$, thus requirement of homogeneity of variance has been met, and the ANOVA test is considered robust. But there exist no significant difference between group means as demonstrated by one-way ANOVA [$F (2, 112) = .527$, $p = .592$] (Table A.6).

12. Discussion

Self-Determination Theory (SDT) states when the basic psychological needs are satisfied in classroom it helps in enhancing motivation and in reducing amotivation level (Deci and Ryan, 1985; Cheon et al., 2016). Present study thus examines how teacher support in satisfying basic psychological needs helps in reducing amotivation among middle school children. Classroom need thwarting situations as controlling language, disregard of student perspectives and uninteresting tasks increase controlled motivation as they dissatisfy need of autonomy (one of the major basic psychological needs) (Patall et al., 2017). Controlling teaching styles are found to increase non self-determined forms of motivation and amotivation (Pelletier et al., 2001 as cited in Amoura et al., 2015). Maladaptive outcomes of absence of teacher support can be externally visible as disruptive behaviours or may be internal as non-participation in classroom or being amotivated (Burgess et al., 2006 as cited in Brown-Wright et al., 2013). Past researches found if basic psychological needs at situational level (teacher support in a math task during class hours) remain unsatisfied, it may lead to amotivation in contextual level (math in general) (Valenzuela et al., 2020). Current researchers thus investigated whether teacher support dimensions (autonomy support, structure and relatedness support) can reduce amotivation through satisfaction of autonomy, competence and relatedness needs.

Amotivation stems from various reasons as low competence in adolescents causing ability amotivation beliefs, from low competence feelings regarding ability to put in hard work causing effort amotivation beliefs, from not considering a task important causing *task value* related amotivation, and considering a task as uninteresting resulting in *task characteristics* related amotivation (Cheon and Reeve, 2015; Cheon et al., 2016). Each of the three teacher support dimensions are investigated separately because they have separate effect on amotivation dimensions, for example, *ability amotivation beliefs* are negatively predicted by structure and relatedness support, *effort amotivation beliefs* were negatively predicted by teacher structure, amotivation beliefs related to *task value*

Table 3. Regression analysis of amotivation of students on teacher structure.

Factor	Predictor	R^2	F	Unstd. Coeff B	SE_B	β	t
A	T_S	.143	18.828***	-3.542	.816	-.378	-4.339***

Note. T_S = Teacher structure; A = Amotivation of Students.
***p < .001.

Table 4. Regression analysis of amotivation of students on teacher autonomy support.

Factor	Predictor	R^2	F	Unstd. Coeff B	SE_B	β	t
A	T_{AS}	.121	15.491***	-3.396	.863	-.347	-3.936***

Note. T_{AS} = Teacher autonomy support; A = Amotivation of Students.
***p < .001.

and *task characteristics* were negatively predicted by autonomy support (Vlachopoulos et al., 2013).

12.1. Unique effects

In this study, *teacher structure* explained the highest amount of variation in amotivation. A task is not valued by the child when he feels no control over the results of his action (Ricard and Pelletier, 2016), and it may lower competence beliefs, engagement and increase amotivation (Ntoumanis et al., 2004). Feeling incompetent in controlling the outcome may cause lowering of effort (*effort amotivation beliefs*) and interest (*task value* related amotivation) to perform any task (Brown-Wright et al., 2013). Teacher structure can help to ensure success by providing guidance and feedback which will help the student to regain perception of competence in achieving desired outcome. Earlier studies show that the provision of structure by teachers is important in reducing amotivation by enhancing competence beliefs (Deci and Ryan, 1985; Wang and Liu, 2007). Low competence beliefs occur when students feel that they do not possess the required ability to improve their academic status which they perceive as permanent (i.e., fixed mindset causing ability amotivation beliefs) (Legault et al., 2006). Teacher structure improves competence beliefs (by satisfying need of competence) and develops incremental attitude (i.e., growth mindset), through a sustained effort improvement is possible (Suhr, 2018; Wang and Liu, 2007). SDT emphasizes the role of structure specially teacher expectations (a component of structure) in motivating students and making them perform beyond their capacity (Kiefer et al., 2015). Older children are more affected upon frustration of competence need and showed higher maladaptive outcomes than younger ones, because adolescents suffer from self-doubt and need to be assured of their ability more frequently (Huhtiniemi et al., 2019). Similarly, girls were found to be more affected by negative teacher feedback (a component of structure), lowering their competence beliefs and making them externally oriented, whereby they opt for performance goals as they move up to higher classes (Boggiano et al., 1991). In case of girls having prior intrinsic motivation, non-supportive social contexts (i.e., negative teacher support) had lesser detrimental effect as these girls possessed internal locus of control (Boggiano et al., 1991). According to SDT, motivated students perceive their teachers more positively and perceive greater teacher support (Patall et al., 2017). Intrinsically motivated children perform a task out of pleasure received from it without requiring much of external reinforcement (Cheon and Reeve, 2015).

Teacher autonomy was the second most important predictor of amotivation compared to structure. In a study by Amoura et al. (2015) predicated that teachers providing higher autonomy support and lower control resulted in children possessing highest level of motivation compared to teachers both high in autonomy and control. Past researches found autonomy supportive teacher behaviours reduced amotivation beliefs by satisfying need of autonomy (Amoura et al., 2015; Cheon and Reeve, 2015; Cheon et al., 2016), and girl students showed lower amotivation compared to boys (Valenzuela et al., 2020). Autonomy supportive teachers not only reduced amotivation but increased motivation level as well (Vallerand et al., 1997). An experimental study showed shifting towards a more autonomy supportive orientation by teachers (after a training intervention) resulting in increased engagement which was intrinsic in nature (Cheon and Reeve, 2015).

Through provision of choice, autonomy supportive teachers increased situational motivation and reduced contextual amotivation (Prusak et al., 2004). Choice along with provision of enjoyable tasks, motivates students to participate volitionally and is found to lower amotivation by introducing an element of self-determination (Wang and Liu, 2007). According to SDT, the tasks which are not relevant to the child's need may cause boredom, lower engagement and increase amotivation (Ntoumanis et al., 2004).

On the other hand, controlling teachers who avail need thwarting strategies as controlling language, avoiding provision of rationale, and disregard for students' perspectives resulted in less motivated children compared to autonomy supportive teachers (Amoura et al., 2015; Legault et al., 2006). Dual Process Model within SDT states that two parallel paths exist in a classroom, one which starts with autonomy support leading to engagement mediated by need satisfaction; another starts with teacher control leading to amotivation mediated by need frustration (Cheon et al., 2016).

Present study revealed *teacher relatedness support* though having least predictive power among the three dimensions still had significant impact upon amotivation. Teacher possessing negative and non-supportive attitude can frustrate basic psychological needs (decrease feeling of relatedness) and reduce motivation (Dağğöl, 2013). Self-determination theory states respect from teachers and peers (an element of relatedness) promotes sense of belongingness which diminished amotivation (Amoura et al., 2015). A study examining parent, teacher and peer relatedness reported that teachers providing relatedness support in classroom helped in better adjustment and increased motivation (Ryan et al., 1994). Relatedness support increases dependability and trust in teachers and is found to reduce negative maladaptive behaviours (Roeser and Eccles, 1998). Sense of Belongingness (or relatedness) acted as a mediator in translating academic motivation to academic success (Faircloth and Hamm, 2005). Teachers appreciating children satisfied relatedness need and enhanced motivation while those ignoring children frustrated relatedness need causing amotivation (Furrer and Skinner, 2003). Teacher relatedness support was found to satisfy basic psychological need of relatedness and prevent dropout by reducing amotivation (Ricard and Pelletier, 2016). Warmth and affection from teachers resulted in positive motivational consequences in children of all age groups (Košir et al., 2007). Girls being highly emotional were found to be more affected by relatedness need frustration compared to boys (Huhtiniemi et al., 2019), while the latter hide their emotional side in order to maintain certain social image (Ntoumanis, 2001, 2005; Toor, 2018).

12.2. Additive effects

Present study found that the three dimensions of teacher support had no additive or interactive effect on amotivation. Past researches grounded in self-determination theory reported all three dimensions of teacher support are negatively associated with amotivation (Legault et al., 2006). Frustration of the three basic psychological needs is pointed out by SDT theorists as the major reason causing amotivation in classroom (Cheon et al., 2016). SDT theorists opine that all three need satisfying qualities should be present in a teacher for successfully handling student amotivation (Wang et al., 2019). In a qualitative study, students reported warm positive attitude of teachers (relatedness support), constructive feedback (structure), provision of rationales & allowing group activity in classroom (autonomy support) decreased amotivation while unappealing tasks, controlling teacher attitude, difficult and dull subjects increased amotivation (Dağğöl, 2013). Similar findings show teachers setting mastery goal, encouraging growth mindset, promoting student belongingness, create a positive classroom environment and are found to reduce amotivation through need satisfaction (Suhr, 2018). Autonomy support was found to have larger predictive power compared to relatedness support or competence support (Amoura et al., 2015). Autonomy support was the most emphasized psychological need absence of which causes extrinsic motivation, and when this coupled with dissatisfaction of the other two needs results in amotivation (Ntoumanis et al., 2004). Previous researchers using SDT framework revealed that in children of all age group, teacher support dimensions as structure, relatedness support and autonomy support were unique predictors for amotivation dimensions as effort beliefs, ability beliefs and task value or task characteristics related beliefs respectively (Vlachopoulos et al., 2013).

SDT proposes that supportive classroom environment and need supportive teachers can foster motivation in children. Conversely, provision

of teacher support is also influenced by the level of child's motivation causing amotivated children to receive need thwarting teacher behaviours which resulted in further enhancement in amotivation (Patall et al., 2017). On the other hand, amotivated students' perception of teacher support is also negative, as they feel teachers are not supportive enough, which in turn lowered their self-determination (Amoura et al., 2015). Conversely, prior motivated students had positive perception regarding teacher support which led to increase in motivation (Patall et al., 2017). The above results show that there exists a bipolar relation between need support and motivation level of adolescents as the former promotes the latter while the latter also enhances the former.

12.3. Age and gender effects

In the current study, *t* test results showed that amotivation of boys and girls did not differ significantly. Earlier studies mostly reveal contradictory results where negative teacher structure (controlling teacher feedback) caused higher amotivation in girls compared to boys, by lowering their competence and increasing amotivation level, as they moved to higher grades (Boggiano et al., 1991; Valenzuela et al., 2020; Wang and Liu, 2007). Girls were also more impacted by frustration of autonomy needs leading to higher levels of amotivation (Huhtiniemi et al., 2019), but the negative influence of amotivation was more detrimental for boys (Shen, 2015). Finally, girls also revealed higher need of relatedness for developing positive motivational orientations (Huhtiniemi et al., 2019). Boys exhibited lower need of relatedness but upon receiving teacher's affection showed greater engagement and motivation compared to girls (Furrer and Skinner, 2003). Not only in general amotivation, but girls were also higher in dimension wise amotivation, showing low effort beliefs and task value beliefs while ability beliefs and task characteristics beliefs were same across genders (Shen et al., 2013). Conversely, some researchers found no gender difference in dimension wise amotivation beliefs (Legault et al., 2006).

In this present study, age wise differences in motivation were not significant indicating that while moving from 6th to 8th grade, amotivation does not undergo significant changes. Previous studies exhibit similar results where age variation had no significant effect on amotivation (Valenzuela et al., 2020). Relatedness need was found to be more significant in younger children entering middle school than older children (Furrer and Skinner, 2003). Other studies revealed although teacher autonomy support decreases with age and student also demand more autonomy with maturity, but amotivation remains relatively stable across age groups (Otis et al., 2005; Gillet et al., 2012). Contradictory results showed moving from elementary to secondary school the children report decrease in ability amotivation beliefs (Chase, 2001; Xiang et al., 2006 cited in Shen et al., 2013). Another research contradicted this finding stating frustration of competence needs affected older children more than young ones (Huhtiniemi et al., 2019).

12.4. Implications

The study creates awareness about the fact that not all behaviours can be extrinsically or intrinsically motivated if children are not interested in a task considering it will not provide a outcome (Seligman, 1975), do not value a task (Ryan, 1995), are not confident about own efficacy (Deci, 1975). Moreover, it highlights that teachers should not only focus on increasing motivation, but also consider the "reverse side" and reduce amotivation as well. This study brings forth the importance of pre-service and in-service intervention programmes oriented towards enhancing teacher support. From students' perspective the research when conducted through self-reports may make students aware about their level of amotivation and causes behind it. Being aware they can try to self-motivate themselves. Schools can seriously consider modifying their education policies for infrastructure improvement, teacher quality enhancement, classroom teaching learning process. Parents can also be made aware regarding level of amotivation in children and how they can collaborate with teachers to address these issues.

13. Conclusion

This study tries to focus on negative side of motivation which is not much explored and tries to make certain contribution to existing literature. The *main findings* show how supportive climate in classroom may help to reduce amotivation or prevent it from occurring. The study has certain limitations as it investigates only positive teacher support dimensions and their effect on amotivation excluding negative ones (viz., control, chaos or rejection). This proved useful to get a clear idea about the unique effects of positive dimensions.

Secondly, nowadays, SDT researchers try to study a dual model of how positive dimensions of teacher support increase adaptive outcomes though having little or no effect on maladaptive ones and how negative dimensions of teacher support increase maladaptive outcomes without having much effect on adaptive outcomes (Cheon et al., 2016, 2018). The present researchers already have studied the effects of positive teacher support on motivation in their earlier works and thus they checked the effect of positive dimensions on amotivation to have a comprehensive view instead of using this dual theory.

Thirdly, only role of teacher support was examined though it was seen home-school dissonance leads to amotivation and disruptive behaviour when ideologies of two social contexts are in conflict (Brown-Wright et al., 2013). Teacher context was chosen as earlier literature showed it was the strongest factor and researchers wanted to view its isolated effect and plan to study parent support in future.

Fourthly, self-report data use may cause biased results as children do not want to accept, they are amotivated. But researchers requested honest opinions and vowed confidentiality to increase the strength of responses.

Fifthly, students belonged to urban locality and may possess a certain kind of mindset thus making generalisation difficult. But as amotivation is a universal phenomenon and common for all children it is assumed that the results could be generalised.

Sixthly, the researchers studied only one type of motivation and excluded intrinsic and extrinsic motivation dimensions. This is because they already investigated those dimensions in previous researches and wanted to examine amotivation in the current research.

14. Delimitation of study

Autonomy support subscale of teacher scale has low reliability as it is only assessed by four items but has been retained as it is valid.

Declarations

Author contribution statement

Ranita Banerjee: Conceived and designed the experiments; Performed the experiments; Analyzed and interpreted the data; Contributed reagents, materials, analysis tools or data; Wrote the paper.

Santoshi Halder: Conceived and designed the experiments; Contributed reagents, materials, analysis tools or data.

Data availability statement

Data for the study is not available.

Declaration of interests statement

The authors declare no conflict of interest.

Additional information

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