



Constructive Psychology Studies In Education: A Literature Review In College Students

Dr. Rimjhim Kumari

Assistant Professor, PG Dept. of Psychology,

Jagdam College Chapra, Jai Prakash University Chapra. Bihar. India.

Corresponding Author - Dr. Rimjhim Kumari

DOI - 10.5281/zenodo.17120597

Abstract:

In recent years, within the area of psychology in so many different fields, there has been a rise in theoretical approaches, all of them with a common objective: the analysis of motivation and personal development, with the purpose of explaining some behaviour's and optimizing the quality of personal processes. One theory that shows to have a significant impact in the educational context is self-determination theory (SDT), developed by Ryan and Deci, 2000a, Ryan and Deci, 2017, Deci and Ryan, 2008. This theory starts with the premise that all people have a natural propensity towards growth and healthy development, and that the fundamental motivational energy comes from a set of BPNs that are essential for students to experiment, sustain, and promote wellbeing, personal growth and learning. This micro-theory that emerges from the SDT framework is named basic psychological needs theory (BPNT; Deci & Ryan, 2008; Ryan & Deci, 2000a) and acts against age, culture, and gender differences, including in both childhood and adulthood (Deci and Vansteenkiste, 2004, Chen et al., 2015; Vansteenkiste et al., 2020).

Keywords: *Self-Determination Theory, Basic Psychological Needs, College School Engagement, Achievement Motivation.*

Introduction:

The BPNs are competence, autonomy, and relatedness, which when satisfied or frustrated show a direct influence on student's motivation. Contexts such as the school, can be determinants for the satisfaction or frustration of these needs. (Niemic and Ryan, 2009, Ryan and Deci, 2020, Vansteenkiste et al., 2020). The need for autonomy refers to the experience of showing will and self-direction within an activity or action, proving itself to be a key to understanding behaviours regulation (Ryan & Deci, 2006). The need

for competence is the experience of efficacy, in other words, the perception of an effectiveness in pupils when conducting their learning activities. This need manifests itself as the desire to extend pupils' own capacities and skills (Ryan and Deci, 2017, Vansteenkiste et al., 2020). The effort that people carry out, in order to establish a relationship with others caring about others and at the same time being cared about is defined as the need for relatedness (Ryan, 1991). This gets mitigated through the transmission of care and respect, the feeling of being understood and related to others. Relatedness is also making the effort to

build safe and close relationships, caring about others (Reeve et al., 2004). In the last three decades, this micro-theory, BPNT, has been strongly backed up by the literature research in the educational field. Many authors propose measuring the support of BPN as motivational antecedents required to determine their effects in the diverse cognitive, social or motivational aspects of students (Niemic and Ryan, 2009, Zhang et al., 2011, Vansteenkiste et al., 2020). One of the main hypotheses that supports SDT is that students with a greater fulfilment of BPN enjoy wider intrinsic motivation, hence it can be a determinant factor in the educational context. SDT proposes a multidimensional conceptualisation of motivation that postulates the existence of four forms of extrinsic motivation: external regulation, introjected regulation, identified regulation and intrinsic motivation (Ryan & Connell, 1989). External regulation, described as a form of controlled motivation in which actions are carried out due to external control and the presence of outputs such as reward or punishment avoidance (Ryan & Deci, 2002). Introjected regulation refers to a type of controlled motivation where the learner is driven to act by internal or self-pressures based on contingent self-esteem, shame, anxiety or guilt about failure (Ryan, 1982). In recent years, several studies have suggested that students who are motivated in a more controlled way (such as external and/or introjected regulation) exert less effort in the classroom, are more easily distracted and have lower grades (Guay et al., 2008; Ryan and Connell, 1989, Taylor et al., 2014). Identified regulation, shown on the

continuum as the most autonomous form of extrinsic motivation, occurs when students identify and judge the activity as valuable or important to themselves. For example, a student who studies at home and complete homework assignments because he/she wants to understand the subject or it is important for him/herself to do so. Intrinsic motivation refers to the more autonomous type of regulation based on the continuum of self-determination, where learners perform their actions for their inherent enjoyment and interest (Deci and Ryan, 2000a). The activities of play and curiosity exemplify intrinsically regulated behaviours as learners do not rely on external control or pressures but rather seek to satisfy their own needs. At this stage of the continuum, we can find those students who enjoy participating in class or find it fun. An intrinsically motivated learner feels competent and effective as he/she is interested in the task and self-fulfilled and may even increase his/her interest at the end of the task. In recent years, several studies have suggested the positive influence of students' intrinsic motivation in the classroom, for example, on goals, effort or persistence in academic tasks (Albrecht & Karabenick, 2018; Vansteenkiste et al., 2009), engagement (Froiland & Worrell, 2016) or academic achievement (Taylor et al., 2014). In addition, several researchers found a systematic decline in academic intrinsic motivation from the age of 9–12 years (Gillet et al., 2012, Gottfried et al., 2001a). However, we find that at the elementary classroom there is a clear lack of literature that addresses understanding and mediators that can facilitate an enhancement of such

motivation at this age. One of the possible mediators between age relations and academic intrinsic motivation may be the needs-supportive teaching style (Gillet et al., 2012, Reeve and Cheon, 2021).

Descriptions:

Conceptualization of Needs-Supportive Teaching:

A needs-supportive motivational style is thus characterized by the provision of autonomy, structure and relatedness to fulfil learners' psychological needs for autonomy, structure and relatedness. (Reeve, 2009, Reeve and Cheon, 2021). Within SDT, and through the circumflex model recently proposed by Aelterman et al. (2019), four main motivational interpersonal styles in teachers are distinguished. They proposed a circular structure through two main axes, where the vertical axis shows the degree of directivity used and the horizontal axis ranges from least to greatest satisfaction of needs. In this model it is shown that those teachers who show attitudes relating to the support of autonomy, that is, where the teachers identify the interests, desires, and feelings of their students in order for them to participate more in class, promote greater satisfaction of needs in their pupils (Mouratidis et al., 2011, Cheon et al., 2012, Reeve and Cheon, 2021). A number of interventions have been conducted during the past years, which confirm that teachers can learn to support autonomy, and when they do, students benefit from it in many different ways (Cheon et al., 2012, Cheon et al., 2018, Cheon et al., 2020, Reeve and Cheon, 2021). Similarly, with autonomy support, a structure-based teaching style

where the teacher provides strategies, help, and support also seems to be able to satisfy students' needs much more than a control-based motivational style (pressure) or chaos (laissez-faire) where there is possibly a less satisfaction and greater thwarting of these needs (Aelterman et al., 2019, Bartholomew et al., 2011, Bartholomew et al., 2018, De Meyer et al., 2014, Jang et al., 2016). Another assumption of SDT is that situational contexts that diminish or frustrate the satisfaction of the needs diminish well-being (Ryan & Deci, 2000a). Well-being is characterized by an affective and cognitive-judgmental component (Diener et al., 2010). The affective component includes the balance between positive affects - the degree to which a student feels emotional states such as interest, joy and confidence - and negative affect - the degree to which a student feels emotional states such as depression, anxiety, fear or shame- (Snyder & Lopez, 2002). The cognitive component of well-being, namely school satisfaction, represents a student's self-evaluation of satisfaction with his or her life in general (Pavot & Diener, 1993). However, well-being is considered flourishing or fully functioning, and not only the presence of positive emotions and the absence of negative emotions (Niemić and Ryan, 2013, Ryan and Deci, 2017). The full functioning of students is determined by several factors, such as development (e.g. temperament, intellectual abilities, etc.) or social situation (motivational style of teachers, parenting styles, etc.). Recent literature has revealed that need satisfaction is related to states such as feelings of vitality (Müller et al., 2021, Vansteenkiste and

Ryan, 2013a), general life satisfaction, hope, and internal locus of control (Huebner & Gilman, 2007), gratitude and positive mood (Sheldon and Bettencourt, 2002, Tian et al., 2016), lower stress (Li et al., 2019) or general well-being (Chen et al., 2015a; Orkibi & Ronen, 2017). Another aspect that is closely associated with the satisfaction of psychological needs in the classroom, is academic engagement. This multidimensional concept refers to students' active participation in a learning task, whether or not they engage in the learning opportunities provided by the teacher (Christenson et al., 2012). Predominantly, researchers had distinguished four types of engagement at school and in the classroom: behavioural engagement (conduct, involvement in learning tasks, and participation in extracurricular activities; Fredricks et al., 2004), emotional engagement (positive and negative reactions to people and activities at school; Fredricks et al., 2004), cognitive engagement (the extent to which students' are willing and able to take on the learning task at hand; Fredricks et al., 2004) and agentic engagement (ability to be proactive in improving their own learning conditions, making suggestions or offering and communicating preferences; Patall et al., 2019; Reeve, 2013). Several research studies have associated engagement in school with the satisfaction of students' needs (Jang et al., 2012a, Van Ryzin, 2011). However, the contribution of each need to student engagement is unclear as the results of various studies are contradictory. Some researchers showed that academic engagement was predicted by the need for

competence and relatedness (Liu and Flick, 2019, Molinari and Mameli, 2018) (Liu and Flick, 2019, Molinari and Mameli, 2018, Olivier et al., 2020) and other researchers, found that satisfaction of the need for autonomy and competence is associated with higher academic engagement and achievement (Jang et al., 2009). And finally, several studies showed that the satisfaction of the three basic psychological needs not only influences academic engagement, but also affects academic achievement (Liu and Flick, 2019, Olivier et al., 2020; Wang et al., 2019; Wang et al., 2019; Zhou et al., 2020). Therefore, following the SDT postulate, a student with greater need satisfaction in the classroom may have a greater sense of autonomous motivation, engagement, and academic achievement (Reeve and Cheon, 2021, Ryan and Deci, 2017). Motivation, well-being, engagement, or academic achievement during the elementary school period is crucial to students' success in their later educational experiences. Despite this, only a handful of studies have included College students). This aspect makes us need to be somewhat careful in analysing the influence of need satisfaction at these ages. To analyse more conclusive results, this literature review is conducted.

Purpose of this Study:

To date, all systematic reviews that have explored the influence of BPN took place in diverse dominions or other age ranges, for example, exercise or physical activity (Teixeira et al., 2018, Teixeira et al., 2012), physical education (Salazar-Ayala and Gastélum-Cuadras, 2020, Saugy et al.,

2020), later life (Tang et al., 2020), adolescents with chronic pain (Riggenbach et al., 2019), health interventions (Gillison et al., 2019) or at work (Van den Broeck et al., 2016). In all these reviews, the direct influence of psychological needs on the individual, with a greater or lesser effect size, is apparent. However, what influence do psychological needs have on such an important educational stage as the 18 to 26 years of age? Notwithstanding, no exhaustive reviews related to early stages of learning, such as childhood (ages 18 to 26) have been found. According to SDT, the satisfaction of basic psychological needs facilitates more autonomous forms of motivation, which in turn leads to greater well-being and engagement, and, subsequently, higher academic achievement. In line with SDT, we hypothesise that the satisfaction of basic psychological needs would show positive association with indicators of autonomous motivation, well-being, engagement and academic achievement in students aged 18 to 26. Therefore, the main objective of this review is to examine the research literature of the last 20 years on the correlates found between BPNs and autonomous motivation, well-being, engagement and academic achievement in elementary and middle students, from 18 to 26 years old. (Bandura A. (2006). Guide for constructing self-efficacy scales. *Self-Efficacy Beliefs Adolesc.* 5, 307–337.)

Methods:

The method of this systematic review was developed in accordance with the preferred Reporting Items for Systematic

Reviews and Meta-analyses (PRISMA) criteria (Moher et al., 2009). The PICO model (population, intervention, comparison, and outcomes) (Booth & Fry-Smith, 2004) was used in the development of the eligibility criteria for the inclusion of studies. Population. Studies must have been conducted with children aged up to from 18 to 24 years. This represents the age span of children attending mainstream elementary and middle schools in Spain. This population is of interest due to the important developmental changes that occur in middle childhood and early adolescence where the child increases autonomy and develops a need for relationships and trust with the environment (Eccles, 1999). Moreover, in line with previous research, it was in this age range that a linear decrease in motivation was found (Gillet et al., 2012, Gottfried et al., 2001b, Gottfried et al., 2009, Lepper et al., 2005, Otis et al., 2005). Intervention. Studies may have implemented any analysis aimed at the satisfaction or frustration of basic psychological needs of the student applied within the educational context. Any quantitative or qualitative investigation, peer-reviewed, with its respective introduction, correctly formulated, data analysis and specified measures of these variables within the SDT framework was included. Studies conducted in Physical Education context were excluded from the current review as these have been rigorously reviewed and debated previously (Owen et al., 2014, Vasconcellos et al., 2020). Additionally, it should be kept in mind that PE strategies and contexts differ from those associated with many other academic subjects. For example, in many physical

education sessions, demonstrations and assessments of competence are often public, whereas, in other academic sessions at school, an individual's performance may be relatively more covert (Vasconcellos et al., 2020). In addition, many of the learning goals of PE are qualitatively different from those of other academic subjects, and healthy behaviour's (e.g., levels of physical activity or exercise) have been shown to be a possible predictor of satisfaction of basic psychological needs in students in PE contexts (Teixeira et al., 2012), while transferability to other subjects is yet to be established. Thus, the physical education context may represent a different arena for the satisfaction of basic psychological needs, which greatly differs from other classroom settings. (Bradley J. M., Hojjat M. (2017). A model of resilience and marital satisfaction. J. Soc. Psychol. 157, 588–601.)

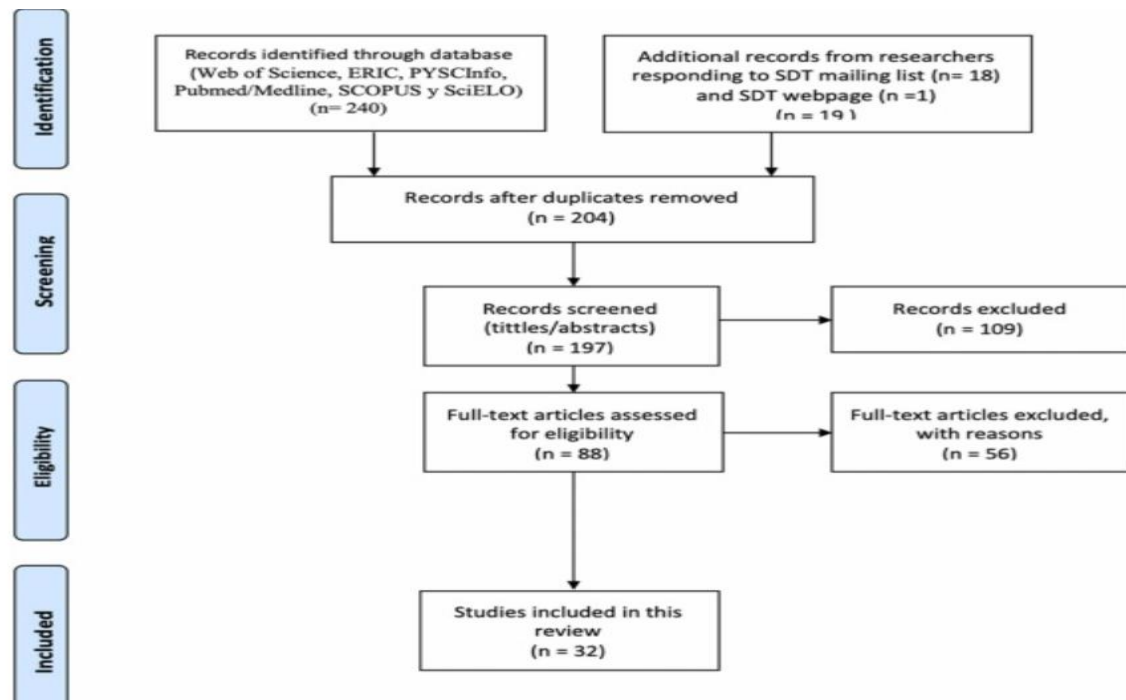
Comparison: The review compares any cross-sectional or experimental studies using measurements of the outcomes. There were no special considerations or restrictions on who delivered the studies. For example, the researcher, teachers or staff. Nevertheless, the interventions had to take place in the classroom. Studies related to BPN support and parenting were excluded.

Outcomes: The studies had to include at least one measure related to satisfaction/frustration or support for

autonomy, competence or relatedness. Any study that considered the above-mentioned BPNs with other variables as relevant in the educational setting, either constructs outlined in SDT (e.g., any type of motivation on the self-determination continuum) or cognitive, emotional, or behavioural outcome related to learning in the classroom (e.g., achievement.)

Data Sources and Search Strategy:

Three complementary strategies were employed in the search for articles and for their consequent inclusion in the study. Firstly, a search in six international databases: (Web of Science, ERIC, PYSCInfo, Pubmed/Medline, SCOPUS y SciELO) through a search of the following keywords both Spanish and English: (self-determination theory OR SDT) AND (basic psychological need OR autonomy OR competence OR relatedness OR autonomous motivation OR self-determined motivation OR need support) AND (elementary school OR middle school OR secondary school) NOT physical education NOT physical activity". A total of 240 published studies were found. Lastly, related references and studies were requested from various authors through the SDT email listserv. For these last two strategies, there was a match of 19 articles, and almost all of them were included in the final research.



The total number of articles initially found was 259, being 120 WoK, 43 PsycINFO, 22 Medline, 11 SCOPUS, 3 SciELO, 41 Pubmed, 18 SDT Lists and 1 SDT website. After deleting the 55 duplicates from the different databases, we had a remaining number of 204 articles to be revised and then, 109 were excluded. Qualitative studies were not found. Finally, a total of 32 full articles were selected for the analysis of this research, 8 of them are cross-sectional, 18 longitudinal and six experimental, the findings of the 32 empirical studies are categorized into five outcome analyses: an analysis of the instruments employed; representative studies illustrating the relationship between need satisfaction and motivation, well-being, engagement and, consequently, achievement.

Measuring The Basic Psychological Needs In Elementary And Middle School Students:

In a general context, and to measure both the satisfaction and the frustration components, the main scale is the Basic psychological need satisfaction and frustration scale (BPNSFS; Chen et al., 2015) which includes a balanced combination of satisfaction and frustration items. In the paper conducted by Vansteenkiste et al. (2020), there is an overview of different translations and adaptations of the BPNSFS in general, domain-specific or/and daily measures. This scale was originally used in an adult population. However, for this study's age range, the instrument choice may vary considerably according to the orientation and objectives of the respective studies. Generally speaking, the reviewed studies have revealed that the most common instruments are the adapted version of BPNSS (such as, (F. Gillison et al.,

2008; Rodríguez-Meirinhos et al., 2020; C. K. J. Wang et al., 2019) or The adolescent students' basic psychological needs at school scale (ASBPNSS). This instrument used in seven studies (i.e., (Tian et al., 2018; Tian, Tian, et al., 2016; Zhong et al., 2020; Zhou et al., 2020) is a 15-item self-report scale that measures the satisfaction levels of autonomy, competence and relatedness at the school. Further to this, an instrument that measured the perceptions of BPN in a situation-specific (solving the SOMA puzzle) and short-term experiential state was found. This is called the activity-feeling scale (Reeve & Sickenius, 1994) and it was used in several studies (Jang et al., 2012b, Oga-Baldwin and Nakata, 2015). Another scale found is the Children's intrinsic needs satisfaction (Véronneau et al., 2005). On a more specific level, it is perceived that the investigators used a large number of instruments to evaluate the autonomy, competence, and relatedness of the students. So as to measure the autonomy levels, several scales such as Adaptation of the patterns of adaptive learning scale (Kurdi et al., 2018), The autonomy scale (Skinner et al., 2008) or the Subscale of intrinsic motivation inventory (e.g., van Loon et al., 2012; Waterschoot et al., 2019) were found. To measure competence, other instruments such as the Multidimensional scale of motivation for school learning (e.g., Skinner et al., 2008) or the adapted version from the Academic self-description questionnaire (Guay et al., 2017). Furthermore, one of the most used instruments to measure support in the two variables of this research is the Learning climate questionnaire (see Caleon et al.,

2016; Carreira et al., 2013; Martinek et al., 2016; Shih, 2008; Wei et al., 2019). Finally, the instruments to measure the levels of perceived relatedness were, Peer scale of the self-description questionnaire (Kurdi and Archambault, 2020, Marshik et al., 2017) or Basic need satisfaction in relationships scale (Simões & Alarcão, 2014). To sum up, it is necessary to highlight that the only three studies which measured the frustration levels in elementary or middle school children were used (Baten et al., 2020, Rodríguez-Meirinhos et al., 2020, Schmidt et al., 2020). In one of them in particular, children reported on their perceived RS and frustration at school every evening for two–four weeks (Schmidt et al., 2020). Although this study appears to show the observed differences between the intensity of feelings of frustration and satisfaction, it seems to have found some proof of the differences and asymmetry. That is, it shows that low satisfaction does not involve a higher level of frustration, however, high frustration levels seems to incur low satisfaction levels (Vansteenkiste and Ryan, 2013b, Warburton et al., 2020). There could be different reasons for this situation. One of them being the challenge of pupils in this age range to distinguish between frustration and satisfaction. This could be due to the students' one-dimensional perspective on the world, which is in full swing at the age of eight to nine (Griffin, 1991), as well as the integration of these two feelings (Harter et al., 1992).

Basic Psychological Needs and Motivation:

Among the 32 empirical studies included in this literature review, 14 studies focus on the relationship between basic psychological need satisfaction and motivation, as shown in Table 1. Of these 14 studies, 10 studies were from different districts of Bihar, including Chapra (n = 2), Rohtas (n = 1), Patna (n = 1), Siwan (n = 1), Buxar (n = 1) and Ara (n = 1). Regarding sample sizes, we found 5 studies with samples of 1–300 participants, 7 studies with 300–600 participants, one study with 600–900 participants and one study with samples greater than 900. Concerning the type of study design used, 5 studies used a cross-sectional design, 5 studies used an experimental design and the remaining four used a longitudinal design.

Basic Psychological Needs and Well-Being:

Within the 32 empirical studies included in this literature review, 10 studies focused on the relationship between basic psychological need satisfaction and well-being, as shown in Table 2. Of these 10 studies, Chapra (n = 1), Patna (n = 1), Siwan (n = 1) and Rohtas (n = 1). Regarding sample sizes, we found two studies with samples of 1–300 participants, 3 studies with 300–600 participants, 4 studies with 600–900 participants and one study with samples greater than 900 at various district regions of the Bihar specially in Chapra Patna and Siwan, Ara, Buxar and Rohtas. Concerning the type of study design used, two studies used a cross-sectional design, two studies

used an experimental design and the remaining six used a longitudinal design.

Conclusion:

Positive psychology, along with other areas of life, has been broadly discussed in education, and research evidence has supported many effects of this approach on learners' cognitive and emotional outcomes. It seems that in the current complex situation with the negative impact of Covid-19 Epidemic on various aspects of learning and motivation of learners, a positive psychological approach and positive interventions can be considered a good strategy for educational interventions, (Hodkiewicz A. R., Boyle C. (2017). Positive psychology school-based interventions: a reflection on current success and future directions.) In the special issue related to positive psychology in education, an attempt was made to study various aspects of the positive psychology system in education, which was relatively successful. Also, due to the reopening of colleges in many districts of Bihar, it is necessary to design a positive educational environment in schools since it will have several consequences on the mental health of learners. Teachers can also have a strong positive impact on any student in terms of creating an environment free of fear and encouraging students to express their wants. Although the design of intervention programs based on positive psychology can be of great value, the development of a curriculum based on the concepts of positive psychology can help prepare the ground for the effectiveness of these interventions. The aim of this research was to review the

literature in relation to the role of autonomy, competence and relatedness needs in the motivation, well-being, engagement and achievement of elementary school students. The analysis shows positive relationships of the satisfaction of student needs with their intrinsic motivation and engagement. Also, it seems that the needs satisfaction could influence students' well-being and their academic achievement. However, the strength of the evidence is tempered by the lack of studies for each variable studied that contain rigorous methodology. Further well-designed and controlled studies with sound theoretical underpinnings and comprehensive outcome measurement, comparing carefully considered results, are needed to expand and improve the evidence base. In summary, this literature review suggests that need satisfaction, motivation, engagement, and academic achievement constitute a dynamic system, operating in students as early as elementary school. The consequent challenge is to give elementary students the opportunity to choose for themselves and make decisions (autonomy satisfaction), to promote students' inherent desire to feel effective in interacting with their learning (competence satisfaction), and

to maintain a close relationship with their peers and teachers (relationship satisfaction).

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