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• Health Services • Life Skills Education • Healthy School Environment



The National Life Skills, Values Education & School Wellness Program

Healthy Schools Healthy India

Education is not preparation for life...
Education is life itself

- John Dewey

Submission Guidelines

- Submission emails must contain an inline **declaration** stating that the research work is the author's original work and has not been submitted elsewhere for publication.
 - Brief information and line of works of the author should be sent as a separate cover note.
 - The subject line of the email should be marked "Submission for IJSHWB: [Author's Name]".
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mental health: Original Contributions are welcome which cover both literature as well as mental health. These can be in the field of poetry, drama, fiction, reviews or any other suitable material. The word limit is 2000 words.

9. **My Voice:** In this section multiple perspectives are provided by patients, caregivers and paraprofessionals. It should encompass how it feels to face a difficult diagnosis and what this does to relationships

and the quality of life. Personal narratives, if used in this section, should have relevance to general applications or policies. The word limit is 1000 words.

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Faculty members are invited to be the guest editors of the journal on a theme relevant to the topic of school mental health in schools.

The Manuscripts for publication in the peer-reviewed and refereed Indian Journal of School Health and Wellbeing (IJSHW) are to be submitted via e-mail to:

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Message from the Editors

Children spend a lot of time at school and the environment in schools can therefore have a major impact on their health and well being. Students are themselves able to learn about health, and also promote healthy behaviours to peers and at home and to the society at large. A healthful environment for students and teachers will certainly promote healthy social and emotional development and remove barriers to students' learning.

WHO's Global School Health Initiative, launched in 1995 sought to mobilise and strengthen health promotion and education activities at the local, national, regional and global levels. The Initiative was designed to improve the health of students, school personnel, families and other members of the community through Schools. The goal of WHO's Global School Health Initiative is to increase the number of schools that can truly be called "Health-Promoting Schools". A Health-Promoting School can be characterised as a school constantly strengthening its capacity as a healthy setting for living, learning and working. In India too many initiatives have been taken with respect to school health which comprises disease free and healthy students, healthy school environment, healthy school meals and the like. The most recent as we are aware is the initiative of the FSSAI, Ministry of Health and Family Welfare, Government of India Campaign on Swasthya Bharat under which various activities in schools and Colleges are being conducted. 'Eat Right India', of the FSSAI is built on two broad pillars of 'Eat Healthy' and 'Eat Safe' and aims to engage, excite and enable citizens to improve their health and well being.

Swasth Bharat Yatra by the FSSAI that was flagged off on October 16, 2018 (World Food Day) from six different locations in India, will culminate at New Delhi on January 27, 2019. The Yatra is an outreach of 'Eat Right India' movement and is a Pan-India Cyclothon. 150 'Volunteer-Cyclists' along with the 'Eat Right Mobile Unit' and 'Mobile Food Testing Unit' are presently travelling across the country now for over 100 days to engage citizens on issues of food safety, combating food adulteration and healthy diets. Students in schools across the country are participating with enthusiasm in this movement.

The Current Volume of Indian Journal of School Health and Wellbeing was announced on the theme 'Healthy School Initiative'. It has been very encouraging to receive contributions from young researchers, school and University teachers and also practitioners who shared their experiences from the field. The Chapters focus on the experiences and ideas of development in the area in both research and practice, recognising the need to have a healthy nation. A few titles that have been included in the present volume comprise, Promotion of Healthy Food Choices and Eating Habits among School Children; Developing Children's Capacities to Cope; Prosocial Behaviours in Pre-primary Schools of India; An insight into existing gender based differentials and its influence on school well-being; Representation of disability in curriculum; Re-Searching Happiness based on the recent inclusion of the Happiness Curriculum in school education and on Student Diversity in Classrooms and the like.

We are confident that the different perspectives on 'Healthy School Initiative', presented through the contributions from the authors in the present volume, will inspire and provoke you to reflect on these and more issues stemming from these for a deeper understanding, research, reflection and dialogue. The Editors thank immensely all the authors for their contributions.

Dr. Mani Bhasin Kalra

Ms. Anam Kazmi

Message from the Patrons

It is a matter of great happiness to note that the latest issue of the Indian Journal of School Health & Wellbeing published by the Expressions India is being released. It is a well known fact that Research publications and Journals in particular are the most authentic sources of verified knowledge and experiences. The sharing of such knowledge and experiences not only amongst the Researchers, Scientists, Policy Planners and Implementers, but also the Activists working in the concerned area and persons having special interest in that area benefits all. It is our privilege to reiterate that the Expressions India has been doing pioneering work since long, in the field of Health Education under its banner of “Holistic Health and School Wellness Programme” to enable the school education and teachers holistic facilitation in realizing the goal of Health Education in Schools. The present publication is a momentous indicator of this initiative.

The major bottleneck in the way of achieving the objective of Health Education has been the particularistic conceptualization of its transaction process. The goal of development of holistic health and wellbeing of young learners cannot be attained by making them gather certain information and rote-learn those. It can be attained only by a transaction process focused on experiential co-scholastic methodology that ensures active participation of learners and substantially contribute to the development of life skills enabling young children to manage their lives more competently and grow as truly empowered human resource of the nation and human society at large. To facilitate this process it is very critical to encourage and empower the teachers, so that they act like facilitators and mentors.

The formal school education system need to look towards interacting and taking the support from the initiatives like the one taken by Expressions India under its National Life Skills Education & School Wellness Programme aimed at realizing the Goal of “HEALTHY SCHOOL.....HEALTHY INDIA”. It is pertinent to state that the Schools and other educational institutions that have been associated with such endeavours have strongly felt the need for such programs to be adopted by all schools including Higher Education System.

It is this context the Journal of School Health has potential to reinforce the process of realizing the vision of Health Promoting Schools getting integrated into the education system in India. We are more than confident that the present issue of the Journal will strengthen this grand endeavour and empower all who are creatively engaged in the promotion of Health Education in Schools. With immense pleasure we would like to express our gratitude for Advisory group, Editorial Board and Members of the Executive Editorial Committee for their valuable contribution, ungrudging cooperation and keen interest and also for making available the benefits of their rich experiences and knowledge.

“If there is will, there is way, and if the will is reinforced by enlightened path-breakers, the way would lead to the destination at the earliest “.

Dr. Jitendra Nagpal, M.D., D.N.B.

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Developing Children's Capacities to Cope: The Role of School

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Abstract

Challenges are as much a part of our lives as are moments of comfort and happiness. Undoubtedly, children today come across multiple stressors in their lives. Neither adults nor children are resistant to hardships. However, they do not always fall flat in a stressful situation. Hence, the role of resilience is important to understand. The paper attempts to look at what is 'resilience', its relevance and how schools can assist in promoting resilience in children. Resilience is not something extraordinary; everyone can show resilience in varying degrees in different situations. It has been commonly defined as the phenomenon of bouncing back from challenging and stressful situations. Resilience is not a trait that an individual has or does not have. Rather, it is an interaction between the individual and his or her environment, in times of stress. Thus, the role played by environment in bringing positive outcomes is worthwhile to understand and consequentially make use of. The paper explores how a school can be a context, providing many protective factors that can foster resilience in a child's life. The role of stakeholders including teachers, peers, parents and the school climate has been elaborated in nurturing skills and abilities that are associated with resilience in children.

Keywords: *Resilience, protective factors, coping, schooling, mental health*

Introduction

Difficult life situations are inevitable. People, including children, are not immune to the outcomes of these stressful situations, some of which are normative, while others are unique. However, how individuals deal with situations can help predict their adjustment in life (Scales, Benson, Leffert, Blith, 2000). Resilience comes from the Latin word '*resilire*', which means to jump back. Therefore, it has often been defined as the ability to bounce back from a challenging situation. In physics, it is linked to elasticity, the ability of a substance to come back to shape after being put through stress (McIntosh & Shaw, 2017). It has been described as the "relative resistance to psycho-social risk

experiences" (Rutter, 1999, p.1). Yeager & Dweck (2012) state that resilience can be called as an attributional, emotional or behavioral response to a challenge that is positive for development. Some positive responses could include trying harder, trying a different strategy or an effective conflict resolution. On the contrary, negative or maladaptive responses to a challenge could include aggression, giving up, cheating and more.

What is common in different definitions of resilience is that people were able to show more success than what was expected from them, even after facing adversities with more than an average risk (Brooks, 2006). Resilience cannot be developed by an individual at risk alone, it is

not just a trait in a child; it is an ecological phenomenon. It is an interplay between the individual and her/his environment (Condly, 2006;), which happens when the individual tries to gain access to resources to cope with stress (Brooks, 2006; Condly, 2006; Johnson, 2008; Morrison & Allen, 2007; Ungar, Connelly, Liebenberg, Theron, 2017). It has been considered both, a process and an outcome (Johnson, 2008). Resilience is not an attribute that individuals have or do not have, rather, it is a combination of skills present in varying degrees (Alvord & Grados, 2005). A facilitative environment has been associated with positive development under stress, more often than individual characteristics (Panter, Brick, & Eggerman, 2012). Resilience is not uncommon, though there is a lot of variation in how children respond to risks. Some children show early resilience while others may be late bloomers (Masten, 2009).

Based on the studies of children who did not succumb to challenges, personal traits of resilient children have been described. They include social competence, problem solving or resourcefulness, flexibility, autonomy, sense of purpose (Berliner & Benard, 1995; Benard, 1991; Alvord & Grados, 2005). Social competence involves ability to form and maintain positive bonds with others, both adults and peers; being responsive and being able to elicit positive responses from others; being empathic; caring; having effective communication skills and a sense of humor. Problem solving involves ability for critical thinking, planning, finding alternate solutions to problems, reflective thinking and ability to seek help from others when needed. Both of these skills are evident since early years of life (Benard, 1991). A sense of autonomy includes capability for independent action. It also includes an ability to distance oneself psychologically from distressing behavior and being able to take some charge of the situation. A sense of purpose is being hopeful and having a bright sense of future, a belief that things will

work out. It is related to having a sense of autonomy and a sense of coherence in life. The children in these studies faced different risks including alcoholism in family, abuse, neglect, poverty. Also, these traits were lacking in children who were going through a mental illness or psychosocial problem (Benard, 1991).

Resilience has been linked to preventing mental health problems in adolescents like depression, anxiety (Dray et al., 2014). There is a positive correlation between resilience and life satisfaction. Resilience is not fixed and one can learn and develop it without any extraordinary resources (McIntosh & Shaw, 2017; Masten, 2009).

Risk and protective factors

When we say that resilience can be developed, it brings us to look at the role of important stakeholders in the lives of children who can contribute in fostering resilience (Brooks, 2006). Factors that increase an individual's chance of experiencing negative outcomes are called risk factors. On the other hand, ones which lead us towards positive effects or reduce impact of negative factors are called protective factors (Werner, 1990). Schools are one of the primary contexts for the child and can provide both risk and protective factors. Risk factors at school can include negative peer interactions like bullying, peer rejection, being part of a deviant peer group, low school connectedness, poor academic performance including school failure and school dropout, truancy, poor behavior management. On the other hand, protective factors include positive peer and teacher relationship, providing opportunities to students to be recognized for their achievements, norms against violence, a sense of connectedness to school, positive school climate (Masten, 2009; Resnick et al., 1997). Some of these, along with other factors, have been elaborated in the next section. Masten (2009) states that resilience can be promoted in three major ways. The first is reducing exposure to risk factors. For example, schools can work to

reduce violence in the school premises. The other is to increase assets to counter the risks, for example, the school can provide mid-day meals and co-curricular activities. The third one is about promoting or restoring the function of important systems in the child's life, for example, schools can work to enhance the teacher-student relationship and also the parent-child relationship during a crisis like parent's divorce.

Role of schools

The focus in resilience has shifted from looking only at what is problematic to looking at the strengths (Seligman, Csikszentmihalyi, 2000; Masten, 2009). Schools can employ different strategies to build resilience in the school community. This involves nurturing the protective factors associated with promoting resilience in children and reducing the risk factors.

Building social emotional skills

Emotions influence many aspects of life including how well children learn (Durlak, Weissberg, Dymnicki, Taylor, & Schellinger, 2011). Meta-analysis of 213 universal, school-based social-emotional learning (SEL) programmes resulted in a statistically significant improvement in socio-emotional skills, behaviour, attitude and academic performance across kindergarten to high school (Durlak et al., 2011). There was a decline in conduct behaviours & internalising problems, and an increase in prosocial behaviors. The outcomes also included positive attitude towards self and others, improvement in the targeted socioemotional skills such as perspective-taking and better academic performance (Durlak et al., 2011). SEL programs have been effective, both within and outside the school, with children who had/did not have early signs of behavioural and/or emotional difficulties and when the school staff conducted the sessions (Payton et al., 2008).

SEL programs have also been associated with a decline in risky behaviours, including the use of substances in adolescents who were at a high risk of substance use initiation (Griffin, Botvin, Nichols, & Doyle, 2003). Some programme characteristics have been associated with greater success. These include use of well-planned activities, eliciting children's voices, appropriate time for skill development, clearly expressed learning goals and focus on specific social emotional skills than positive development in general. These practices have been named as SAFE (Sequenced, Active, Focused and Explicit) in brief (Durlak et al., 2011; Payton et al., 2008). When these skills are delivered by individuals in the immediate context of the child or by those who can monitor child's progress, the results are more favourable (Brooks, 2006). The use of a separate curriculum for socioemotional also needs has been emphasised.

Fostering teacher-student relationship

Teaching strategies are more than learning tools. Roorda, Koomen, Split, & Oort, (2011) found that teacher-student relationships, which were positive in nature, were linked to increased student engagement and achievement. The results were contrary for negative teacher-student relationships. Bond et al. (2007) found a statistically significant relationship between a combination of school and social connectedness with lowered mental health problems, risky behaviours (substance abuse) and better educational involvement. Review of an eight-year longitudinal study in Australia looked at the concept of resilience in the lives of children (Johnson, 2008). The researcher emphasised the value of 'little' and 'ordinary' things done by teachers for children. These involved knowing children well, meeting with them regularly, hearing them, helping them grasp a concept, encouraging them to deal with challenges and taking action when students needed their help, for example, in the incidents of bullying.

Morrison & Allen (2007) highlighted that a teacher in a classroom has many opportunities to cash on the protective factors. Strategies such as the use of experiential learning methods, appropriately challenging activities and giving a role to each child in the class could help give a sense of purpose, autonomy and self-worth. Intrinsic motivation could be nurtured by encouraging children to build on their interests and by acknowledging children's efforts. Communicating high expectations to student would also help in developing motivation and a positive self-concept in academics.

Enabling positive peer relationships

Peer relationships have been identified as pivotal in the development of resilience in children in different settings (Benard, 1991). They are a source of companionship, love, support, self-esteem (Benard, 1991). They help in distancing children from distress in home and have been found to have a greater impact on the school performance of children from divorced rather than intact families (Wang, Haertel, & Walberg, 1998). They have also been significant in influencing their group member's academic competence and attitude towards school. When peers valued high achievement, children spent more time on school tasks, completed more homework and were regular (Wang et al., 1998). Thus, the children who are at risk of school failure should be given more opportunities to interact with peers who have high achievement motivation and positive attitude towards school (Wang et al., 1998).

Regarding peer relationships, Morrison & Allen (2007) highlight the importance of letting children work in groups and enabling participation by all members. Children may join in to share their strengths and weaknesses, interests, solve problems or brainstorm about classroom rules. These groups would help in engaging students, develop social skills and respect for individual differences, building a positive classroom environment and reducing

peer rejection. On one hand, positive peer relationships can be a source of companionship, but, on the other, negative peer relationship like bullying can also be a source of great distress for children. Thus, schools can design and implement programs that address the problem of bullying. Some of the programme components associated with a decrease in bullying include long duration, intensive programs with firm disciplinary methods, increased playground supervision, anti-bullying policy, meetings and training for parents (Pearce et al., as cited in Beadle & Smith, 2014).

Partnering with parents

Supportive relationships help provide a sense of belongingness, trust, love to children, be it with parents, teachers or peers in times of stress (Ungar, Brown, Liebenberg, Cheung & Levine, 2008). Characteristics of parents that promote resilience include creating a structured family environment, having high expectations from children and letting children participate in family decisions (Wang et al., 1998). Parent involvement helps increase children's commitment to school and children with involved parents are more likely to adjust well in school and enroll for higher education (Learning First Alliance, 2001, Cahill et al., 2014). Researchers have found that those educational interventions that target both parents and students than only students are more effective (Wang et al., 1998).

Ferugson et al. (2008) reviewed thirty-one studies about parent involvement, based in different settings (geographically, culturally, in schools and outside), across different grades. The study described ways of enhancing parent involvement in school. One was creating a welcoming environment, where the belief that all families have the potential to contribute towards their child's education in meaningful ways would play an important role. Another was demystifying misconceptions between parents and teachers for each other, which may be leading to mistrust between them. For example,

parents may have a misconception that schools do not want inputs from them. Yet another way out could be creating a structure and identifying processes to involve parents than occasional or scattered involvement (Ferugson, 2008). Home visits, parent workshops and sending newsletters to parents to reinforce their learning could also be channels to connect with parents (Catalano et al., 2003). What is important is that parents are involved in children's learning rather than the narrow focus on increasing parental contact with school (Goodall, 2013).

Having high expectations

A relationship where the child feels that s/he is capable helps him develop resilient traits of self-esteem, optimism, self-efficacy (Benard, 1995). Having high expectations and providing children necessary support to meet those expectations helps in achieving academic success and lowers rates of problem behaviours like drug abuse, delinquent behavior, teen pregnancy (Rutter as cited in Benard, 1995).

Suggestions for communicating high expectations in schools include positive relationships with adults who communicate a belief that children can achieve, a curriculum which is diverse and appropriately challenging, catering to different learning styles and multiple intelligences. Another step that can be taken is involving children in problem-solving and reflection, showing interest in child's performance, and communicating feedback to the child in a constructive manner (Benard, 1995; Brooks, 2006). Schools with high expectations have been found to help in reducing the number of children with academic failure and increasing those who would join college subsequently (Benard, 1991).

Cefai (2007) selected primary classrooms (grade 2, 3 and 4) in three schools, based on three components of educational resilience (prosocial behavior, problem solving, educational engagement). The researcher focused on understanding classroom processes in these

schools. One important finding was that the teachers believed in each child's potential to succeed, depending on his or her ability, and communicated the same to them. The children here were found to take difficulties as a challenge and win over it with the motivation of the teachers.

Providing opportunities to participate

Expectations also lead to individuals being considered worthy of responsibilities (Benard, 1995; Brooks, 2006). When given opportunity to voice their opinions or participate in decision-making, it is a rewarding feeling and absence of the same can make one feel alienated (Benard, 1991).

What participation has to offer can be only understood when one experiences it through structured or informal activities in school (Learning First Alliance, 2001). This could be through play, group work in the classroom, class meetings organised by children, older students being buddies for the younger ones, and also community service projects (LFA, 2005). Whole school activities like clubs, sports programmes, art, music, drama bring together different students, foster a sense of community and can increase school connectedness (Morrison & Allen, 2007). Clear rules, consistent implementation and rewards for appropriate behaviours have been found to be helpful at the classroom and whole school level (Morrison & Allen (2007). On the contrary, alienation has been linked to risk factors like alcohol use, delinquency, failure in school, depression (Benard, 1991).

Enhancing resilience of school staff

For schools to be effective in helping children they need to help the educators and school staff to function optimally (Brooks, 2006). Teachers, who themselves felt burnt out, perceived themselves as less influential in bringing any change in lives of children, and used more control over students (Pierce & Molly, as cited in Brooks, 2006). Therefore, some ways to build

resilience in the school staff could be to acknowledge and reward them for their efforts, communicating high expectations to them, peer coaching and professional development (Brooks, 2006).

Conclusion

Today, stress is not unknown to children and is rather a buzzword in adolescence and youth. With stressful situations becoming common, children should be ready to cope with them. Resilience is just a trait that a child is born with; it is influenced by the environment and can be

developed. With children spending a significant time of their day in school, it becomes an important space to promote resilience. The paper has looked at how protective factors in a school can be cashed on to benefit students and their families. The role of caring relationships, positive school climate including a need for relevant and engaging curriculum, opportunities for taking up responsibility, and participation have been explored and analysed. In all these efforts, the participation of parents and the larger community has an equally important role.

References

- Alvord, M.K., & Grados, J.J. (2005). Enhancing resilience in children: A proactive approach. *Professional Psychology: Research and Practice*, 36(3), 238 –245. doi: 10.1037/0735-7028.36.3.238
- Benard, B. (1991). Fostering resilience in kids: Protective factors in the family, school, and community. Retrieved from ERIC database. ERIC Document 335781.
- Benard, B. (1995). Fostering resilience in children. Retrieved from ERIC database. ERIC Document 386327.
- Bond, L., Butler, H., Thomas, L., Carlin, J., Glover, S., Bowes, G., & Patton, G. (2007). Social and school connectedness in early secondary school as predictors of late teenage substance use, mental health, and academic outcomes. *Journal of Adolescent Health*, 40(4), 357-367. doi: 10.1016/j.jadohealth.2006.10.013
- Brooks, J.E. (2006). Strengthening resilience in children and youths: Maximizing opportunities through the schools. *Children and Schools*, 28(2), 69-76.
- Cahill, H., Beadle, S., Farrelly, A., Forster, R., & Smith, K. (2014?). Building resilience in children and young people: A literature review for the Department of Education and Early Childhood Development Early Childhood Development (DEECD). Retrieved from Enabling Spaces website: <http://www.education.vic.gov.au/Documents/about/departments/resiliencelitreview.pdf>
- Catalano, R.F., Mazza, J.J., Harachi, T.W., Abbott, R.D., Haggerty, K.P., & Fleming, C.B. (2003). Raising healthy children through enhancing social development in elementary schools: Results after 1.5 years. *Journal of School Psychology*, 41(2), 143-164. doi: 10.1016/S0022-4405(03)00031-1
- Cefai, C. (2007). Resilience for all: A study of classrooms as protective contexts. *Emotional and Behavioural Difficulties*, 12(2), 119-134. doi: 10.1080/13632750701315516
- Condly, S.J. (2006). Resilience in children: A review of literature with implications for education. *Urban Education*, 41(3), 211-236. doi:10.1177/0042085906287902

- Dray, J., Bowman, J., Freund, M., Campbell, E., Wolfenden, L., Hodder, R.K., & Wiggers, J. (2014). Improving adolescent mental health and resilience through a resilience-based intervention in schools: Study protocol for a randomized controlled trial. *Trials*, 15(289), 1-9. doi: [10.1186/1745-6215-15-289](https://doi.org/10.1186/1745-6215-15-289)
- Durlak, J.A., Weissberg, R.P., Dymnicki, A.B., Taylor, R.D., & Schellinger, K.B. (2011). The impact of enhancing students' social and emotional learning: A meta-analysis of school-based universal interventions. *Child Development*, 82(1), 405-432. doi: 10.1111/j.1467-8624.2010.01564.x
- Ferguson, C. (2008). The school family connection: Looking at the larger picture. Retrieved from ERIC database. ERIC Document 536948.
- Goodall, J. (2013). Parental engagement to support children's learning: A six point model. *School Leadership & Management*, 33(2), 133-150. doi: 10.1080/13632434.2012.724668
- Griffin, K.W., Botvin, G.J., Nichols, T.R., & Doyle, M.M. (2003). Effectiveness of a universal drug abuse prevention approach for youth at high risk for substance use initiation. *Preventive Medicine*, 36(1), 1-7. doi: 10.1006/pmed.2002.1133
- Johnson, B.R. (2008). Teacher-student relationships which promote resilience at school: A micro-level analysis of students' views. *British Journal of Guidance and Counselling*, 36(4), 385-398. doi: 10.1080/03069880802364528
- Learning First Alliance. (2001, November). Every child learning: Safe and supportive schools. Retrieved from Learning First Alliance website: <https://learningfirst.org/sites/learningfirst/files/LFASafeSupportiveSchoolsReport.pdf>
- Masten, A. S. (2009). Ordinary Magic: Lessons from research on resilience in human development. *Education Canada*, 49(3), 28-32. Retrieved from <https://eric.ed.gov/?id=EJ868694>
- McIntosh, E., & Shaw, J. (2017, May). Student resilience: Exploring the positive case for resilience. Retrieved from Unite Group website: <http://www.unite-group.co.uk/sites/default/files/2017-05/student-resilience.pdf>
- Mikami, A.M., Boucher, M.A., & Humphreys, K. (2005). Prevention of peer rejection through a classroom-level intervention in middle school. *The Journal of Primary Prevention*, 26(1), 5-23. doi: 10.1007/s10935-004-0988-7
- Morrison, G.M., & Allen, M.R. (2007). Promoting student resilience in school contexts. *Theory into Practice*, 46(2), 162-169. doi: 10.1080/00405840701233172
- Panter-Brick, C., & Eggerman, M. (2012). Understanding culture, resilience, and mental health: The production of hope. In M. Ungar (Ed.), *The social ecology of resilience* (pp. 369-386). New York, NY: Springer.
- Payton, J., Weissberg, R., Durlak, J., Dymnicki, A., Taylor, R., Schellinger, K., & Pachan, M. (2008, December). The positive impact of social and emotional learning for kindergarten to eighth-grade students. Retrieved from Collaborative for Academic, Social, and Emotional Learning (CASEL) website: <https://casel.org/the-positive-impact-of-social-and-emotional-learning-for-kindergarten-to-eighth-grade-students-findings-from-three-scientific-reviews/>
- Resnick, M.D., Bearman, P.S., Blum, R.W., Bauman, K.E., Harris, K.M., Jones, J., Udry, J.R. (1997). Protecting adolescents from harm: Findings from the national longitudinal study on

- adolescent health. *Journal of the American Medical Association*, 278(10), 823-832. Retrieved from <https://jamanetwork.com/journals/jama/issue/278/10>
- Roorda, D.L., Koomen, H.M.Y., Split, J.L., & Oort, F.J. (2011). The influence of affective teacher student relationships on students' school engagement and achievement: A meta-analytic approach. *Review of Educational Research*, 81(4), 493-529. doi: 10.3102/0034654311421793
- Rutter, M. (1999). Resilience concepts and findings: Implications for family therapy. *Journal of Family Therapy*, 21(2), 119-144. doi: 10.1111/1467-6427.00108
- Scales, P.C., Benson, P. L., Leffert, N. & Blyth, D.A. (2000). Contribution of developmental assets to the prediction of thriving among adolescents. *Applied Developmental Science*, 4(1), 27-46. doi: 10.1207/S1532480XADS0401_3
- Seligman, M.E. & Csikszentmihalyi, M. (2000). Positive psychology: An introduction. *American Psychologist*, 55(1), 5- 14. doi: 10.1037//0003-066X.55.1.5
- Ungar, M., Brown, M., Liebenberg, L., Cheung, M., & Levine, K. (2008). Distinguishing differences in pathways to resilience among Canadian youth. *Canadian Journal of Community and Mental Health*, 27(1), 1-13. doi: 10.7870/cjcmh-2008-0001
- Ungar, M., Connelly, Liebenberg, L., & Theron, L. (2017). How schools enhance the development of young people's resilience. *Social Indicators Research*, 1-13. doi: 10.1007/s11205-017-1728-8
- Wang, M.C., Haertel, G.D., & Walberg, H.J. (1998). Educational Resilience. Retrieved from <https://files.eric.ed.gov/fulltext/ED419073.pdf>
- Werner, E. E. (2000). Protective factors and individual resilience. In J.P. Shonkoff & S.J. Meisels (Eds.), *Handbook of early childhood intervention* (pp. 115-132). Cambridge, New York: Cambridge University Press.
- Yeager, D.V., & Dweck, C.S. (2012). Mindsets that promote resilience: When students believe that personal characteristics can be developed. *Educational Psychologist*, 47(4), 302-314. doi: 10.1080/00461520.2012.722805

Prosocial Behaviours Exhibited by 3 to 6 Year Old Children In Pre-primary Schools of India

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Abstract

Young children can often be seen accompanying the adult to clean the house, to hang the clothes, to set the dining table and so on. It may appear unjustifiable for some to designate terms like helping, sharing, comforting and so on to young children as they cannot verbalise their intentions. Yet, certain intentions can be understood from the acts performed by the children. Prosocial behaviors like that of helping, sharing, cooperating, comforting, and informing form a very important part of social interactions in human beings. In this study, an effort has been made to understand four different types of other-oriented behaviors, exhibited by 3 to 6 years old children, in the pre-primary school settings of India. The data provided is based on narratives given by teachers of *anganwadis* and pre-primary schools. The children were found to exhibit these behaviours not just towards the adults, but also while having interactions with their peers. The implications of the study in the field of pre-primary and primary education have also been discussed.

Key words: *Prosocial behaviour; Helping; Sharing; Comforting; Informing; Early childhood education*

Major psychoanalytic theories like that of Freud, and cognitive theories like that of Piaget, portray young children as primarily being self-centred and egocentric. Attributing terms like helping, sharing, comforting and so on to acts performed by young children may appear unjustified to people who designate these terms for people old enough to verbalise their intentions. According to Bruner (1974), young children tend to display behaviours from which the intentions of the acts can be deciphered.

Prosocial behaviour refers to voluntary actions that are intended to help or benefit other individuals or group of individuals (Eisenberg and Mussen, 1989). Thus the acts of helping, sharing, comforting and informing all come under the broader umbrella of an act that can be described as prosocial. Children in the first three years of life are reported to help (Rheingold, 1982), share (Rheingold et.al, 1976), and comfort another in case of distress (Hoffman,

1981). Helping can be any action performed to facilitate the acquisition of another person's goal (Dahl, 2015). This behavior has been seen to emerge as early as the second year of life. Most infants at 14 months of age were seen to retrieve an out of reach object for the researcher (Warneken and Tomasello, 2006). Human infants understand that the other person is in need from their first year of life and begin to act upon those needs during the second year of life (Köster et al., 2016). In the second year of life, children get opportunities to participate in basic household chores, for which they are being praised or thanked by the parents (Dahl, 2015). These scaffolding provided by the parents act as an encouragement for the child to be more prosocial. Studies conducted by Warneken and Tomasello (2008) show that children are intrinsically motivated to help each other from the second year of life and external rewards undermine the already present intrinsic

motivation in children. Parenting practices in different cultures have an influence on children's helping. Infants in non-western families may understand helping as an interpersonal responsibility which has to be performed as a duty, but infants in the western context may understand helping as a matter of personal choice (Giner et al., 2017). It is easier for children to help in emotion-based and action-based tasks, compared to tasks where the child has to give up something (Svetlova, Nicholas and Brownell, 2010). Helping is also shaped by children's own experiences with the person who needs help, for example children do not help those who have previously harmed others and their help is based on the social interactional experiences that they had during previous occasions (Vaish, Carpenter and Tomasello, 2010).

"Helping others by expending a few ergs of energy like fetching a dropped pen is one thing, but sharing valuable resources with them is another" says Warneken and Tomasello (2009). The situations where a child gives his/her belongings to another can be termed as sharing. Forms of cooperation and sharing were studied with 12, 18 and 24 month old children by Hay, (1979). In the course of the second year of life, both sharing and cooperation were found to increase in a play setting where the children were interacting with their parents. Sharing behaviour starts right from the second year of life, when the recipient explicitly communicate the need to the child (Brownell et al, 2009). Sharing in children depends on the relationship that the children have with the recipients (Moore, 2009; Fehr et al., 2008) and on the socialisation practices followed in their culture (Rochatt et al., 2009; Robbins and Rochatt, 2011). 3-year-old children were seen to share most equally with a peer after they have worked together actively to obtain rewards in collaboration task, even when those rewards could easily be monopolised (Warneken et al, 2010).

Addressing the emotional need of the other can be termed as Comforting. In order to comfort another individual, the child should be able to identify other's emotional needs. Human children are born with certain innate reflexes that cause distress on hearing another's cry (Hoffman, 2000, 1981). Empathy-based concern develops after the child is able to differentiate between the self and the other, which happens by the time the child turns 1 year old. By about 2 to 3 years, they have rudimentary awareness that others have inner states independent of theirs, and by about 6 to 9 years, the children are aware that others have their own identities outside the immediate situations (Eisenberg and Mussen, 1989). Hoffman (1981) suggests that, developmentally, at different stages, children react differently on seeing the other in distress. Children who are less than a year old respond to other's distress as though they themselves were in pain. Children between the age group of 1 and 2 years try to console others by doing things that would please themselves, for example, bringing a toy that comforts the child him/ herself. In the later stages of life, children understand others as having independent inner mental states and react accordingly. Kienbaum (2001) conducted a study with 5 to 6 year old German children in kindergarten where it was found that the children showed more comforting behaviour in classes where they had teachers who were warm and affectionate.

Informing is passing relevant information to someone who is in need. It can be performed either prosocially or communicatively to pass on interesting information. Human infants start informing from as early as twelve months of age by using natural gestures like pointing (Tomasello, 2009). Infants, at twelve months of age, point cooperatively to share their interest as well as to provide information to a communicative partner (Liszkowski et al, 2005).

The Present Study: Settings, Participants and Methodology

Most of the studies investigating pro-sociality are conducted with European and North American children in a laboratory setting. Very few researches have explored the occurrences of prosocial behaviour in natural settings. There is a major paucity of researches investigating pro-sociality of children in India. The present study, discussed here, is part of a larger study conducted to understand manifestations of prosocial behaviour in children of 1 to 6 years of age. In this paper, an attempt has been made to describe prosocial behaviour exhibited by children of 3 to 6 year in pre-primary school settings. Teachers from four different *anganwadi* and three different pre-primary schools (a private pre-primary school, a government aided pre-primary school run by Christian missionary and an International pre-primary school), situated in the Kannur district of Kerala in India, were interviewed in order to get an understanding of the different prosocial behaviors exhibited by children in *anganwadi*/ pre-primary school settings. Fourteen female teachers (four *anganawadi* teachers and 10 teachers from pre primary schools) participated in the interviews. Teachers were asked to provide examples of other-oriented behaviours like helping, sharing, comforting and informing that they have observed in children. *Anganwadi* is the terminology used to denote Indian pre-primary schools set up by the government to provide free education, care and food for children who are in their early childhood stage. Children who are admitted in the *anganwadi* mainly came from economically weaker sections of the society, whereas the pre-primary schools had children coming from middle class as well as upper class sections of the society. *Anganwadi* has got children from 3 to 6 years of age sitting together in one single class, however the private pre-primary schools have got sections like play areas for 3 to 4 year olds, lower kindergarten mainly for 4 to 5 year olds and upper kindergarten for 5 to 6 year olds. The narratives provided by the

teachers were transcribed and analysed for emerging common themes.

Major Findings of the Study

The descriptions of different prosocial behaviours exhibited by the children are given below and are based on the narratives provided by the teachers.

Helping: Teachers of the *anganwadis* have mentioned that children help and cooperate with them in cleaning the school premises by plucking grasses and weeds, help in spreading the mats for sleeping, pick up fallen things, help in putting toys back in the toy bin after playing. Children cooperate with each other and pool their energy and resources in moving heavy objects like tables/ stools, in stacking up chairs and so on. Children help each other by retrieving bags and slippers for others, picking up fallen or forgotten things, fetching others' water bottles, helping younger children if they have difficulty in closing or opening caps of their water bottles, combing each other's hair, assisting another in putting on clothes after visiting the toilet. Children who are in the play section of the government-aided pre-primary school help the teacher in spreading sleeping mats on the floor, picking up things that are fallen and unnoticed by the teacher, and stacking chairs. They also help each other by fetching water bottles, remind each other to take their belongings, help in keeping snack boxes back in the bag if someone is unable to do it and so on. Children in the kindergarten sections of all pre-primary schools help the teacher by distributing crayons and books in the class. The teacher of the International pre-primary school says that if a child is unable to remember and write the alphabet in a sequence, then some other child comes and helps them out. The children cooperate with each other whenever they do some exercises given in the text books and while colouring during the art class. They even motivate each other to complete their work.

Sharing: The teachers of the *anganwadis* and pre-primary schools have provided illustrations that help to understand that children do share, but not every time and not everything. Some children share things like pencil, rubber and so on, when they see that others don't have it, and some only share when the teacher asks them to. In case of toys, if there is a single toy, then children can end up fighting for that. Similarly, children have difficulty in sharing some special food/ snacks or chocolates that they have bought from their home.

Comforting: The narrations given by the teachers show clearly that children are very forthcoming in comforting their peers when they are distressed. Children, at all the institutes studied, comfort their peers by wiping off their tears and by enquiring and consoling them by saying things like, "don't cry, your mother will come soon", or by asking "what happened? who hurt you?" The intensity of comforting is seen to be higher among siblings and children coming from the same home. The siblings who come to the *anganwadi* are seen to be extra caring and protective towards each other. The twin brothers (at the pre-primary school run by Christian missionary) who were admitted in different classes met during lunch breaks and hugged and consoled each other on seeing the other cry. Children enquire if they see that the teacher is hurt, and in one situation, a teacher has even mentioned that the child went and told his parents and bought balm for the teacher to apply.

Informing: From the illustrations so provided by the teachers, it can be understood that across the institutions studied, most children inform when someone is searching for something, if they find something that belongs to someone, if they come to know that a peer has not got something while distributing in the class or if a peer lacks a pencil or gets hurt. Thus, it can be seen that prosocial informing is prevalent in children right from the age of three, when they are in the play sections of the school.

Responses given by the teachers to students showing prosocial behaviour

Teachers appreciate the children who demonstrate different acts of prosocial behavior (particularly when they help), by giving both tangible and intangible rewards and privileges. The most common reinforcers are: verbal praise like saying good boy/good girl, by saying thank you or by giving sweets or a hug. It is also noteworthy that the praise given by the teachers provides encouragement and also boosts up the confidence of the children. In the words of one teacher, "getting appreciation from the teacher is like winning a lottery for the children." Material rewards are also given by the teachers of the pre-primary schools like sweets, or a sticker, or a star. The tradition of sticking a star on the child's hand was mostly seen in the international pre-primary schools. One of the teachers at the kindergarten section of the pre-primary missionary school says that she always use to give sweets to the children whenever they helped her, for example, by carrying stacks of books to the staffroom for her. She says that once she had no sweets to give to a child when the latter helped her in bringing the stack of books; the child waited for some time and asked the teacher for the sweets. On realizing that the teacher had no sweet to give, the child told her that she can give the sweet whenever she has one. The teachers mostly held the view that once a material reward is given to the child then the child expects the same material reward later too.

Discussion

Children are seen to perform different prosocial acts while interacting with those around them- be it their teacher or peers. The act of helping is spontaneous in children, and is performed depending on the opportunities obtained. Children in the *anganawadi* get opportunities to help in variety of circumstances, like cleaning the yard with the teacher, serving food, assisting their younger peers in putting on clothes after visiting the toilet and so on, whereas children in

the pre-primary schools help each other and the teacher from inside the class by motivating and helping others in finishing the exercises in the text book or by helping the peer in remembering and writing alphabets in a sequence. Unlike helping, sharing in children is based on a decision of the other's need, but also on protection of their own pleasure and interest as well. This is indicated from the incidences where children readily share certain things but hold on to certain others, such as their favourite snack or toy. A sense of ownership is seen in children from as young as when they are three years old. Sharing behaviour unlike helping, in most cases comes across as a thought-out decision rather than a spontaneous one.

Children empathise with others when the others show distress and are also seen to comfort and console on seeing their peers cry. The care and comforting behaviour is not just restricted to their kin, but also is seen projected towards other members like peers or teachers in the class. Children are seen to inform pro-socially during circumstances when the other is searching for something or when the other has forgotten to pick something while leaving for home and so on.

Verbal appreciation given by the teachers is seen to boost up the confidence in the children, whereas material appreciation like giving a candy or a star can lead to all the behaviours being valued only for its instrumental purpose and consequences. Early childhood educators should be conscious of this and plan their teaching-learning techniques accordingly.

The pre-primary and primary school teachers have the space and opportunity to provide instances where they can create situations that require children to help each other and share their belongings with others. For example, in an art class, instead of scolding the child for not bringing the colour pencil, the teacher can encourage children to share. The teacher can also create activities where the children are required to share from a common colour pencil box. The prosocial acts of the children towards others should be noticed by the teacher and should be brought into the attention of the other members of the class. Teacher should also be a model of prosocial conduct that the children can look up to and learn from. Teaching of moral education should not be focused on teacher preaching good values to the children. The teacher instead should scaffold the children to learn about values from their own kind and selfish deeds through self-reflection and critical thinking.

References

- Brownell, C. A., Svetlova, M., & Nichols, S. (2009). To share or not to share: When do toddlers respond to another's needs? *Infancy*, 14, 117–130.
- Bruner, J. S. (1974). The organization of early skilled action. In M. P. M. Richard (Ed.) *The integration of a child into a social world*. U.K: Cambridge University Press.
- Dahl, A. (2015). The developing social context of infant helping in two U. S. Samples. *Child Development*, 86, 1080-1093.
- Eisenberg, N and Mussen, P. H. (1989). *The Roots of Prosocial behaviour in Children*. U.K: Cambridge University Press.
- Fehr, E., Bernhard, H., & Rockenbach, B. (2008). Egalitarianism in young children. *Nature*, 454, 1079–1084.
- Giner Torrens, M., Kärtner, J., & Chaudhary, N. (2017). The influence of socialization on early helping from a cross-cultural perspective. *Journal of Cross-Cultural Psychology*, 48(3), 353–368.

- Hay, D. F. (1979). Cooperative interactions and sharing between very young children and their parents. *Developmental Psychology*, 15, 647–653.
- Hoffman, L.M. (2000). *Empathy and Moral Development- Implications for caring and justice*.USA: Cambridge University Press.
- Hoffman, L.M. (1981). Is Altruism Part Of Human Nature? *Journal of personality and Social Psychology*, 40, 121-137.
- Kienbaum, J., Volland, C., & Ulich, D. (2001). Sympathy in the context of mother-child and teacher-child relationships. *International Journal of Behavioral Development*, 25, 302–309.
- Köster, M., Ohmer, X., Nguyen, T. D., & Kärtner, J. (2016). Infants understand others' needs. *Psychological Science*, 27(4), 542-548. doi:10.1177/0956797615627426
- Liszkowski, U., Carpenter, M., Striano, T., & Tomasello, M. (2006). Twelve- and 18-montholds point to provide information for others. *Journal of Cognition and Development*, 7, 173–187.
- Moore, C. (2009). Fairness in children's resource allocation depends on the recipient. *Psychological Science*, 20, 944–948.
- Rheingold, H. L. (1982). Little children's participation in the work of adults, a nascent prosocial behavior. *Child Development*, 53, 114–125.
- Rheingold, H. L., Hay, D. F., & West, M. J. (1976). Sharing in the second year of life. *Child Development*, 47, 1148-1158.
- Robbins, E., & Rochat, P. (2011). Emerging signs of strong reciprocity in human ontogeny. *Frontiers in Developmental Psychology*, 2, 353. doi:10.3389/fpsyg.2011.00353.
- Rochat, P., Dias, M. D. G., Liping, G., Broesch, T., Passos-Ferreira, C., Winning, A., & Berg, B. (2009). Fairness in distributive justice by 3- and 5-year-olds across seven cultures. *Journal of Cross-Cultural Psychology*, 40, 416–442.
- Svetlova, M., Nichols, S. R., & Brownell, C. A. (2010). Toddlers' prosocial behavior: From instrumental to empathic to altruistic helping. *Child Development*, 81(6), 1814–1827.
- Tomasello, M. (2009). *Why We Cooperate*. U.S.A: MIT Press.
- Vaish, A., Carpenter, M., & Tomasello, M. (2010). Young children selectively avoid helping people with harmful intentions. *Child Development*, 81, 1661–1669.
- Warneken, F. & Tomasello, M. (2006). Altruistic helping in human infants and young chimpanzees. *Science*, 31, 1301 - 1303.
- Warneken, F. & Tomasello, M. (2008). Extrinsic Rewards Undermine Altruistic Tendencies in 20-Month-Olds. *Developmental Psychology*, 44 (6), 1785–1788.
- Warneken, F. & Tomasello, M. (2009). Varieties of altruism in children and chimpanzees. *Trends in Cognitive Science*, 13, 397-402.
- Warneken, F., Lohse, K., Melis, A., Tomasello, M. (2010) Young children's share the spoils after collaboration. *Psychological Science*, 22, 267–273

Understanding of Cyber Bullying amongst Parents and School Counsellors

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Abstract

The present study was undertaken with a primary objective to understand perspectives of parents and school counselors on cyber bullying. This was done by studying perceptions of parents of 10-12-year-old children and school counselors. All participants were located in Delhi. The participants were interviewed to know their understanding of cyber bullying and the ways that they used to prepare children to combat cyber bullying. Counselors were selected from four different private schools, who had at least two years of experience in counselling. Three counselors were from a psychology background and one was from Human Development and Childhood Studies. All the four counselors had an experience of more than two years.

Keywords: *Cyber-bullying, counselling, online behaviour*

Introduction

Childhood, in contemporary times, has been marked as a distinct stage through various guidelines and definitions and it can be both constructed and reconstructed for and by children. The UNCRC defines 'child' as a person below the age of 18 years, thereby marking childhood as a period of life lived from birth to 18 years of age. Research in the field of or relating to children/childhood has shown significant changes about how the meaning and construct of childhood has emerged, transformed and gained new dimensions over a long stretch of time.

One of the most famous works focusing on childhood is by Aries (1960). For his research, he studied medieval art, writings, games for children, clothing worn by children as well as other norms and representations of children and concluded that children in the medieval era were 'miniature adults'. The art portrayed children as shortened bodies of adults, having adult-like features, with clothes similar to what the elders

wore. He also pointed out that the era had less emotional loading or significance for childhood/children from the parent's side. His work was his interpretation of all the existing forms that he studied, and therefore, it can have varied views along with some loopholes.

Pollock (1983) argues that in order to understand the emergence of childhood as a distinct stage, it was important to look at the first-hand experience of parent-child relationship. Further, Shahar (1992) argued that medieval-age parents invested in the emotional and physical needs of the child, displaying care and affection. Although Aries never claimed that the medieval era lacked caring on the adult's part, these researches have been used to criticise and comment on Aries and his co-thinkers.

Childhood has largely been classified in stages/periods of infancy, preschool, early childhood, middle childhood and adolescence. The transition period between middle childhood and adolescence is also referred to as 'late childhood'. During late childhood, children gain

access to new settings and encounter pressures that present them with distinctive developmental challenges. The widening world of late childhood is marked especially by the entry into school of children from all strata of society. School entry signifies a new set of social contacts with adults and other children as well as a wider variety of settings than those that characterise middle childhood. The widening social world for family relationships and their continuing functions for children in late childhood also occupied a primary role during late childhood years.

Bullying: Bullying can be described as the systematic abuse of power: the exact definition of ‘abuse’ will depend on the social and cultural context. Bullying is persistent violence, physical or psychological, conducted towards an individual who is not able to defend herself/himself in the actual situation (Roland, 1989).

Bullying may take different forms (Smith, 1994). Direct bullying includes both physical and verbal harassment: hitting, kicking, pushing, teasing, calling names, or insulting, but also damaging other’s property or stealing. On the other hand, relational bullying causes harm through damaging or controlling relationships with peers, included in relational aggression forms of harassment such as “excluding a peer from one’s play group, purposefully withdrawing friendships or acceptance in order to hurt or control the child, and spreading rumors about the child so that peers will reject him/her”.

Bullying becomes highly prevalent during the late middle school years because children have strong social skills yet are still quite emotionally immature. The combination creates the perfect breeding ground for many forms of social aggression. Left unchecked by getting no conflict resolution skills and strategies to increase situations, they are left to experience bullying behavior much more than they should.

A bully knows how to cause pain to another person. This knowledge requires advanced

cognitive and social abilities, including the abilities to take others' perspectives and to empathise. A child, during late childhood years, gains both abilities, which is another reason why bullying in middle school is common. Middle school students are better able to understand emotional triggers and have the words to connect the dots. Significant numbers of children are bullied, and this can result in short-term and long-term negative effects for both the victims and bullies. Like adult friends, children who are friends try to be similar to each other.

Cyber bullying, or using electronic technologies in order to bully another person, or a group of people, is becoming more common today. The term “cyber bully” is used to describe the individual(s) administering bullying via electronic devices. Dehue, Bolman, and Vollink (2008) found that 22% of students were bullied either traditionally or electronically, at least once within the past school year.

Cyber bullying can be defined as an aggressive, intentional act carried out by a group or an individual, using electronic forms of contact, repeatedly and over time, against a victim who cannot easily defend him or herself. Cyber bullying is a form of bullying which has, in recent years, become more apparent, as the use of electronic devices such as computers and mobile phones by young people has increased. Cyber bullying can take many forms. It is subdivided into seven sub-categories: Text message bullying, Picture/Video Clip bullying (via mobile phone cameras), Phone call bullying (via mobile phone), Email bullying, Chat-room bullying, Bullying through instant messaging, Bullying via websites and Video games.

Many school-aged children have experienced the unkindness of bullying. The impact and effects of bullying have been described extensively in scholarly literature. The current body of students brings an additional threat to bullying. Due to their sophisticated use of technology, today's

students are using current delivery systems to taunt, tease, and threaten their classmates. Cyber bullying is the newest form of bullying, and it brings additional challenges for school personnel. Because of the unique aspects of cyber bullying, school psychologists need strategies to guide school communities faced with this threatening behavior.

The childhood experience of bullying or being bullied has existed over many generations. However, the problem of cyber bullying has raised this issue to new dimensions because bullying through technology is not bound by physical space. Cyber bullying is the deliberate and repeated harm inflicted through the use of computers, cell phones, and other electronic devices, carried out as an aggressive act by a group or individual against a victim who cannot easily defend himself/herself. Unlike traditional bullying, which typically takes place in the schoolyard, buses, and paths to school, cyber bullying continues even when children are in their home, leaving victims feeling helpless and thinking as though they have nowhere to go. Some classic examples of what cyber bullied victims are experiencing 24 hours a day, seven days a week, are derogatory comments in the inbox of their emails, inappropriate text messages containing words and pictures, or a dedicated Facebook page containing hurtful things and images posted for the entire world to see. Cyber bullying is prevalent among young people all over the world.

Findings

Defining cyber bullying: All parents were aware of the term cyber bullying. They used different terms to define cyber bullying, that were “making someone afraid of, disclosing their personal information and harassing or blackmailing someone online”, “फेसबुक पर तंग करना डराना धमकाना”, “If someone uses internet for wrong purpose including games, adult videos posting on you tube, wrong MMS sharing, uploading photos without someone’s consent”.

One parent said, “If someone makes fake ID and uploads photos and posts bad comment about others on Facebook”. “Cyber means computer and internet and bullying means to harm the person so, cyber bullying would be bullying on internet and threatening someone for money or any other purpose”. One parent related the Blue whale game to cyber bullying using examples; he said, “जैसे ब्लू व्हेल गेम में क्यूरेटर फोन करके बच्चों को डराता धमकाता है और कहता है कि जाओ छत से कूदो और अपना हाथ काट दो तो वह साइबर बुली कर रहा है”. All responses pointed towards cyber bullying that happens via internet.

Usage of internet by children: When asked about the usage of internet by children, parents responded that children use WhatsApp for 10- 15 minutes just for recreation and for being in touch with family friends (five), watching videos and playing games (three), and for studying purpose (two). Parents reported that the duration of use increased during vacations and weekends. Only one mother reported complete restriction on using WhatsApp as she didn’t want her daughter to see any “adult” message as she may get distracted and may lose interest in studies as reported by her.

Out of 10 parents, only one said that limited use of internet cuts down chances of cyber bullying, whereas the rest of the parents were not receptive to this idea. They felt that internet is very important, and only if it is not monitored, a child may become a victim of cyber bullying. They were of the opinion that posing more restrictions would lead to more curiosity. They also talked about its usage, highlighting that it is helpful for children in doing homework and projects as well as for remaining in touch with relatives.

Parents reported using different ways of telling their children not to waste too much time using mobile phones by taking the following actions:

locking the phone with passwords, giving strict instructions, giving reasoning and warnings,

monitoring the child, by taking away phones from them. Two parents said they beat their children and instructed them not to use mobile phones too much. Two parents said that they distract their children and give them other tasks like household chores or send them outside to play. They also instructed them use mobiles less as it can affect their eyes and may cause headache and irritation in the eyes. One parent said that, “I do not keep inappropriate content so that my children do not open and see it; I keep lock on my phone and keep another phone for my children so that they can take help for their studies”.

One parent said that, “I will try to explain the importance of time and management, I will rather advise him to go for studies and for recreation, he should go out to play and make friends face to face, not on Facebook”. Parents, thus, report strategies they use to restrict children from overusing mobile phones and some of them also reported using physical punishment for the same.

Parents further reported that they usually discuss issues related to cyber bullying by giving instructions like “do not talk to strangers, do limited chats with your friends”. They also said that they monitor by checking history and messages, instruct their children not to play video games, and tell their children that if someone sends bad messages, they must tell their parents.

One of the parents also shared that “my children got information from school related to blue whale games and they came back and also instructed me, so likewise, children discuss issues related to cyber bullying”. One parent said her child is on Facebook and both are friends on Facebook. It was found that parents who had daughters were more restrictive towards giving mobile phones and especially mothers gave instructions such as not talking to strangers and checked history and their friends on Facebook. They also instructed their daughters that if they

see any inappropriate content on you tube, they should immediately click the back button, and if someone teases them, then they should tell them because mothers spend more time with daughters and understand them more, as said by one mother. One parent said, “By giving examples and past experiences and news related to cyber bullying, by giving warnings to children, using internet for academic purpose only and by telling them not to visit particular sites or apps”. One parent said that he sits with his children and tells them how to use apps and monitors what his children do on internet. Only one father said that he told his children about blue whale games and told them that the game should not be played.

All 10 parents said that their children’s different behaviour will tell them if something is wrong. The behaviour reported by them included actions such as hiding, not making eye contact, telling lies, confused facial expressions, shivering, being afraid, being disturbed, being quiet, being nervous or irritated, engaging less in social interaction, using phone all the time, asking more questions related to a particular app or site, not letting parents check whether the child has created some ID. Few parents also said children might share their concerns with their grandparents.

One parent said that, “he will check the child’s profile, once he will get to know that he uses some app like Facebook and Twitter”. One father said that, “he will track his son’s activities and if he gets to know that the child did it deliberately, then definitely he will be punished”.

Another parent said that, “his daughter will be quiet because she is very talkative and will become aggressive and will be in anger all the time and will not understand anything even if anybody will try to tell her right things she will show aggression”. Findings reveal that parents know of the signs that they must be careful of. Still only a few of them made it a point to do a watchful supervision of their children’s actions on the internet.

Ways adopted to prevent cyber bullying. Out of 10 parents, five said no and five said yes when asked if they had installed any safety software to prevent cyber bullying. Those who said no reported that they checked history and text messages and asked their children what they did during internet surfing and took counselling from teachers in school about the usage of internet. One parent had installed an App lock and another had a safety software called “I manager” that had age restrictions as it restricts unsuitable content for children.

In a study done by Levine, Emily (2013) called *A Study of Parental Understanding of and Intervention in Cyber Bullying among Children in Fourth through Eighth Grades*, the results indicated the depth of the impact of technology on children as reported by parents. Gaming, using technology as a communication tool, utilising technology for school, and the availability and accessibility of technology were seen to have the greatest impact on the lives of the children. Parents recognised that cyber bullying is taking place through cell phones, social networking, and e-mails. In order to prevent cyber bullying incidents from occurring, many parents indicated that they control their child's online activities or discuss appropriate internet use. However, almost half of the parents did not have filters and software programs installed on their child's computers. Parents also indicated that if they were to find out about participation in cyber bullying incidents, a conversation would take place between the parents and child, in addition to the taking away of technology. Results from the qualitative research indicated parent's concerns regarding cyber bullying, difficulty in supervising all use of technology by children, and lack of supervision by parents of other children. The study concluded that more attention should be given to parents in school bullying programs. There is also a need to provide education to parents on how to respond to cyber bullying. Parents need to create supervisory plans that

include conversations between themselves and their children as well as evaluate the games and websites that their children are using. The present study also reveals that only one parent out of 10 had installed a safety software, although a number of parents reported supervising their children's internet activity.

Out of 10 parents, two reported that they would try to seek information in a friendly way, whereas three said they would directly question their child and may ask for their Facebook password. A parent also said that, “if my child will not accept my friend request on Facebook, then it will mean that something is wrong and I will ask him to delete his profile”. Parents wanted to be in the know about activities their children indulged in on social media, and from children's findings, it came to the fore that children also had a clear idea of the same. Parents discussed with their children that they should not play certain games, as they are harmful. Every parent had different ways of telling their kids about the blue whale game, two parents said that their children got information about blue whale game in their schools and they told their mothers. Parents also reported that when they play games, their children play along with them so that they can monitor them at the same time and said when they play too many games, their mothers engage them in some household work or might tell them to go out and play.

One parent said, “playing a game is not a problem, but the way you don't have to play the game and get hurt is big problem. One parent said that “children should not be given mobile phones at a very early age; right age at which mobile phones should be given is above 15 years. Children should be told why using internet can at times be harmful for them”.

Another parent said that he had instructed his children about the blue whale game and told them that “it is a very harmful game, so do not download it and do not try to play” and given

warnings to the child again and again. Another parent said that, “I will tell the disadvantages of the game to my children and give examples of cases that took place in various parts of India like Mumbai, Bengal cases and I had made him read all the news about blue whale game and told him about the consequences”. He also reported that once his son drew a whale on his arm and his mother got angry with him and gave him a tight slap, and after that, he told his son not to draw and told him to not to download or click the link of blue whale games. Another parent told his daughter that “this is very harmful game so do not play it or download it, if someone sends you link or post do not like or click on it. Another parent told his son that this game should not be played by him. He said, “this game is harmful and will tell you to do tasks which are very harmful, it will tell you to harm yourself as harming yourself is very bad and by doing this you are not only hurting, yourself but you hurt your parents too”. Most of the parents held discussions with their children after reading about incidences in the newspaper and instructed them to be safe and not to open unknown links on the internet.

Role of school counsellors

Making students aware about cyber bullying.

Out of four counselors, two said that they made their children in their school aware of cyber bullying by initiating discussions about related news articles. One of them said, “there is no universal age to sensitise children about cyber bullying. Children’s exposure needs to be identified first, and then appropriate sensitisation needs to be provided. We provide cyber security workshops, beginning from class four and for class three, simplified understanding on online games and safety measures”. One counselor said that through discussions in classroom, they make children aware in their school about cyber bullying.

Out of four counselors, three said that 10 years onwards is the age when children should be

sensitised about cyber bullying. One said that there is no universal age for sensitising children about cyber bullying.

Views on time children should spend on internet.

All the counselors shared their views about how much time 10-12 years children should spend on internet. One of them said that it “depends upon individual need as some schools provide homework related to online surfing further whatever time the child is using internet the parent of a child of this age group should be around and aware”. One counselor said, “45 minutes is enough to spend on internet and surfing related to homework should be allowed under adult supervision and telling simultaneously that what is to be clicked and how search engines work and what to type and what to click”. One counselor said that, “10 to 12 year olds must only be allowed to surf the net with parental supervision, it could even be something that they do together-allowing them on social media is not advisable. Since education system encourages a lot of projects, school related work can be encouraged for the students, they can be allowed as long as it does not promote violence and objectification”. One counselor said, “an average two hours a week is sufficient for children”. All of them felt that parents must supervise the internet usage of children and that there should be a fixed time limit for its usage.

Views on impact of cyber bullying on children.

All four counselors shared a range of outcomes that children may face when they get cyber bullied, arguing that it can lead to low self-esteem, cause chronic panic mode, can curb child’s expressive rights, cause anxiety and depression, may lead to self-harm, may lead to poor academic performance and distress. They also felt that it can impact a child’s social and emotional well-being, which can affect a child’s development across all domains. Social aloofness, emotional anxiety, extreme fear, self-harm were other effects that were reported by the school counselors. All the counselors were of the

view that limiting the use of internet does not necessarily cut down chances of cyber bullying, but telling the child about the pros and cons of using internet will be more helpful. This was in consonance with the views of most of the parents as well.

Cases of cyber bullying. Out of four counselors, three agreed that children come up with cases of cyber bullying, whereas only one said that “no case of cyber bullying has been reported to me so far”.

Those who said yes discussed various issues such as the multi-player games which children play, in which the opponent on losing uses extremely foul language, along with threatening to kill or harm, which according to them, is a very common affair these days as reported by children. They also reported that many girls shared their experiences with fake profiles on Facebook and bullying on WhatsApp.

All counselors said that if a case cannot be handled at the school level, then parents are involved and children are referred to a professional or a psychologist, and some even said that the help of police can be sought along with legal aid. They all said that they ask parents to take strict action against the one who bullies.

Views on involvement of parents. *Engaging parents and students in discussions on cyber bullying.* Every school had a different culture on engaging parents and students. One counselor said that, “through classroom workshops; an internet safety pledge is given to children to be discussed with parents at home. School also organizes a large group parents’ workshop on cyber security”. One counselor said that, “by arranging a parent orientation at school and for children classroom discussions are held. One counselor said, “for students we share news related to blue whale games and discuss with each other children come up with lot of Facebook and Instagram bullying and for parents we discuss them on parent teacher meetings.

Another counselor said that, “for students a discussion during value education class and according to the need we conduct workshop for parents”. All counselors had organised sessions, either with children or parents, or both separately, for creating awareness about cyber bullying.

What should parents do? All four counselors believed that “parents should first show unconditional positive regard to their child, show them their strong support and belief that they have in their child and further through a dialogue find out the bullies and act accordingly”. One of them said, “speak to the child about it first, supervise the content, if it is another student then inform the school authorities if not then inform cyber cell department”. One counselor said that, “parents should talk to the child and should tell their children how to use internet and should support the child and should consult a therapist if case is severe”. Another counselor said, “parents should file a complaint in Cyber Crime Cell and they have to provide emotional and social security and support to the child”.

The counselors were of the opinion that parents should talk to the child, set routines and supervise the child, they also said that parents should allow children to access internet, but keep an open communication with them about its pros and cons and supervise the usage. Parents should inspire confidence so that their children can report anything to them. Parents also need to listen patiently with complete understanding, according to the counselors.

Issues that parents usually face. All the counselors said yes, parents had approached them regarding their concerns regarding their children’s use of the internet. One such issue was primarily about children wanting to use unhindered internet and not wanting to be supervised. Also, addiction related to online games is a common issue. One of them raised the concern that, “teaching the child to draw a line between what is safe surfing and unsafe is

major issue that parents usually face”. One counselor said, “time spent on mobile phones was a serious issue among teenagers and during middle school years, online gaming was a serious issue”. One said, “spending most of the time using mobile phones and computer results in poor academic performance, anger, less family interactions among children”. All counselors were approached by parents and the predominant issue was regarding the long hours of activity on the internet by children and its resulting impact.

Perception about role of Schools. *School policies on prevention of cyber bullying.* Out of four counselors, only one said that, “school condemns cyber bullying and stringent actions are taken against children involved in any incident of cyber bullying either reported or found out”. Out of four counselors, two counselors said that, “there are no policies, but yes, we provide general awareness on cyber safety”. One of them said that the school policy is to make children aware and to counsel those who face such kind of issues.

Three counselors reported that they had cyber safety software installed in their computer labs and children use internet and computers in adult supervision. One counselor said, “there is complete supervision done and software installed by the Computer Department. Till class five, there is no direct internet facility on computers used by children in computer labs”.

Only one said, “children are not allowed to surf internet in school and all IT classes are monitored by computer teachers”. One counselor also said, “computer teacher guides children what to surf on internet and also instructs what all kind of links should not be opened such as the blue whale games”.

What should educators do? All the four counselors believed that it was very important for teachers to be on the lookout for inappropriate behaviour of children, for example, if the child misbehaves with peers, suddenly stops performing well in exams and

doesn't pay attention. These signals should be considered and teachers should have a dialogue with the child and the counselor needs to be involved. The next step could be reaching out to parents.

Steps to follow if child is being subjected to cyber bullying. All four counselors shared similar opinions and opined that the child needs to be taken in confidence and his/ her consent needs to be taken to involve his/ her parents and that the source of bullying has to be stopped. Then, the bully is to be approached in school by teachers or school authorities or by parents if the bully is outside of school. They also argued that continuous counseling help for the child is mandatory for him/ her to evolve out of this episode. One of the counselor added that, “if the bully belongs to the school, then first will be warning and next punishment, however all the procedures must keep the parents in the loop, parental help at home would be the best to follow up”. The counselors believed that, first and foremost, the child should be comfortable and should get social and emotional security and confidence in teachers and parents, and only then the rest of the action can be taken. The counselors believed that the child can be slowly pulled out of excessive internet usage, if they are well informed of its ill effects.

Organisation of workshops/seminar for students and parents. All the school counselors reported that their school had organised workshops for students on safe internet usage, and only one counselor said workshops were conducted for both parents and students. All the four counselors said that their school had awareness sessions and discussions when blue whale games were more popular among children and adults. The discussions were held for classes 6th-12th.

Conclusion

In the current scenario, internet usage is not only helpful, but it can be serious if there is no watchful supervision and regulation. In this case,

parents, guardians, teachers and counselors need to be responsible and make children aware about cyber bullying for their protection.

Findings of parents revealed that the internet was considered to be an important part of life as it connects them with their relatives, and that limiting internet does not cut down the chances of cyber bullying. It was found that parents gave instructions, checked history, shared news and discussed issues related to cyber bullying with their children. Parents reported that they were open to allowing children to use mobile phones for study purposes and for recreation. Findings revealed that children in joint families had more opportunities to use digital devices and were less likely to be supervised, whereas children in nuclear families had fewer opportunities to use digital devices and were more likely to be supervised. Mothers of 12 year old girls were more restrictive of their daughter's internet usage as they stated that girls were in the puberty phase and they might get distracted from studies if they use social networking sites. It was found that mothers sit with children and play games as well as supervise them on what to surf on the internet, whereas fathers used instructions and discussions instead of supervising. Parents reported using instructions and taking away digital devices to restrict too much use of mobile phones/ digital devices. It was found that parents who do not have cyber safety installed in their system, checked history, read text messages and asked their children what they did on the internet.

Findings of counselors revealed that making children aware about cyber bullying was mainly done through discussions. Schools engage parents to discuss about cyber bullying through workshops and discussions. Need-based sessions were organised, however continuous effort in this regard is very important in this technology-driven time and age. It was found that schools used cyber safety software in computer labs and computer teachers were always there to supervise children. Counselors were of the view

that parents should show unconditional positive regard for the child and must always talk to the child. As far as the role of teachers is concerned, they should observe the child's inappropriate behaviour (if any) and should refer them to the counselor and also share these concerns with parents. Findings from counselors revealed that the school policy on prevention of cyber bullying was to take strict action against the children involved in any incident of cyber bullying either reported or found out. Cases that could not be handled at the school level were referred first to parents and then to psychologists outside of school. Important implications that can be drawn from the present study are:

- Children, parents and school counselors were well aware of the management and impact of cyber bullying, but there seemed to be incongruence in how it can be prevented and regarding the role of parents. This issue needs to be discussed in presence of all stakeholders.
- It was found that workshops and discussions were the source through which counsellors created awareness about cyber bullying. They reported holding these sessions and workshops separately for children and parents. A common platform where voices of children are also considered along with those of adults will go a long way in making them understand the deeper issues and threats of cyber bullying. Sessions that involve both parents and children in the presence of counselors can help in ironing out any differences in opinion regarding the same. They all can be constant partners in dealing with any form of bullying encountered and that too without fear.
- Children can be well-informed about how to tackle/ handle cyber bullying without being afraid of anyone. Parent- child partnership and bonding can be further improved by involving them in discussions, role-play etc. Conducting discussions where they get to know and understand each other's perspectives is important too. Counsellors must discuss

importance of watchful freedom, regulation and monitoring with parents. Children should not have a fear of parents and should be able to share their concerns with them without the fear that their phone will be taken away from them. Parents, teachers and counselors must build a trustworthy relationship with the children, so that they can approach them without any fear. The child should not be made to feel guilty. Going by the ecological theory (Bronfenbrenner, 1979), it becomes imperative that a child is able to share his/ her feelings with the persons in their closest systems, that is from family, teachers in schools and even a supportive peer group.

- Installation of safety software at home and schools would be a step towards internet safety. Keeping the computer in an open space will allow parents to keep track of children's activity.
- Sitting together and deciding the duration of internet usage along with parents is also an important step.
- Parents and teachers can keep a watchful eye on children and look for signs such as anger, guilt, fear, isolation, self-destructing behaviour etc. Along with help of counsellors, they can advise ways or strategies to ensure safe use of internet.

- Information about cyber security and steps that need to be followed, in the cases of cyber bullying, should be discussed with children and parents.
- In schools, teacher can ensure this is by keeping a box where a child can come and share their experiences. They should know whom to contact when in need.
- Parents must keep track of the duration of the usage of internet, as a sudden increase or decrease in the usage can be a sign of danger.
- Giving children alternative options of leisure time activities, outdoor play, organised sports activities, involvement in a hobby or activity.

With easy online access and gaming getting cheaper, it's easy to get hooked on to new windows to entertainment and it is equally important to know about how technology works, but there is a lack of awareness regarding how to use it so that it can benefit us rather than harming us. Children between 10- 12 years of age get into an online addiction easily because of the availability of technological devices, thus affecting their mental and physical health. Surveillance of children all the time, with helicopter parenting, is equally harmful for the families. Finally, the awareness of children on cyber bullying, training of parents, teachers and children on cyber safety is a must.

References

- A Study of Parental Understanding of and Intervention in Cyberbullying among Children in Fourth through Eighth Grade.(n.d.). Retrieved from <https://eric.ed.gov/?q=cyberbullying+children&id=ED55303>
- Bullying and victimization at school.(n.d.). Retrieved from <http://dare.ubvu.vu.nl/bitstream/handle/1871/13040/6332.pdf?sequence=1>
- Childhood Concept.(n.d.).retrieved on 20 October Retrieved fromhttp://family.jrank.org/pages/232/Childhood-Modern-Western-Conception_Childhood.html
- Clarke,J (n.d.).Children and Childhood, Part One. *Histories of Childhood*.Retrieved on 20 OctoberRetrieved from http://www.blackwellpublishing.com/content/bpl_images/content_store/sample_chapter/0631233962/wyse%2002chap01.pdf

- Compton, L., Campbell, M.A., & Mergler, A. (2014). Teacher, parent and student perceptions of the motives of cyberbullies. *Social psychology of education*, 17(3), 383-400. Doi:10.1007/s11218-014-9254
- Hurlock, E.B.: *Child Growth and Development*, TATA McGRAW-HILL Publishing Company LTD., New Delhi, 5th Edition.
- Hurlock, E.B.: *Developmental Psychology, A Life-Span Approach*, TATA McGRAW-HILL Publishing Company LTD., New Delhi, 5th Edition.
- Hinduja, S., & Patchin, J. W. (2007). Offline consequences of online victimization: School violence and delinquency. *Journal of School Violence*, 6(3), 89-112.
- Middle and late childhood. (2011). In *lifespan development* (13th ed., p. 278). New Delhi, IN: McGraw hill.
- Pollock L. H. (1983) *Forgotten Children: Parent–Child Relations from 1500 to 1900*. Cambridge: Cambridge University Press.
- Porter, R. (1990) *England in the Eighteenth Century*. London: Folio.
- Shahar, S. (1992). *Childhood in the Middle Ages*. London: Routledge.
- Shorter, E. (1976). *The Making of the Modern Family*. London: Fontana.
- Socio emotional development in middle and late childhood.(2011). In *Lifespan development* (13 ed., pp. 314-318). New Delhi, IN: McGraw hill.
- Stone, L. (1977). *The Family, Sex and Marriage in England 1500–1800*. London: Weidenfeld.
- The emergence of cyberbullying: A survey of primary school pupils' perceptions and experiences - Claire P. Monks, Susanne Robinson, Penny Worlidge, 2012. (2012, September 20). Retrieved from <http://journals.sagepub.com/doi/pdf/10.1177/0143034312445242>

Enabling Girls to Continue Education: An ICT Based Intervention Study for the School Going Girls

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ABSTRACT

Education is the most effective tool for women's empowerment. According to Census of India 2011, the literacy rate is 74.04%, with a large gap in male (82.14%) and female (65.46%) literacy rates. Similarly, in Rajasthan, the gender gap in literacy is 27.81%, with male literacy rate being (80.51%) and that of females at (52.7%). In order to promote education among girls, an action research was conducted to generate awareness and enhance knowledge among school-going girls about the state supported schemes for girl child education. The study was carried out in Kotputli town and village Narhera of Jaipur district in Rajasthan. Sixty girls from government schools studying in class IX were shown specially prepared animated videos giving important information about seven such schemes. The findings indicated that the animated videos were very effective in generating interest and providing complete information to the students, making it possible for them to avail their benefits in future. The app, developed as a resource for future, has also been downloaded by more than a thousand number people so far, indicating that such efforts need to be scaled up to reach out to all eligible girls.

Keywords: *Girls' education, ICTs for Development, Gender gap in literacy, Government schemes, Schemes for Girls education*

"Education is the most powerful weapon which you can use to change the world"

-Nelson Mandela

Background

Education for girls and women is the single most effective way to improve the lives of individual families as well as to bring economic development to poor communities worldwide. The need for women education is also informed by the fact that purposeful occupational achievement and satisfaction is ensured by deep self-awareness and understanding, which can only be achieved through the provision of effective and functional education and guidance & counseling. Enhancing women's participation in development can be brought by enhancing

educational opportunities (Ahamad, Narayana, 2015).

Education of women means providing them greater power enabling them to make indisputable choices over the kinds of lives they seek to live. Education leads them towards a happier and healthier life. Numerous studies shows that illiterate women have high levels of fertility and mortality, poor nutritional status, low earning potential and little autonomy in households (Kuldeep, 2016). An educated woman can not only promote education of girl children, but can also provide better guidance to

all children. She can also help in reducing infant mortality rate and growth of population.

India ranks 131 in Human Development Report out of 188 countries, according to the United Nations Development Programme, 2017. Education is a universal right. It empowers girls by helping them achieve other basic human rights- a spiral of power in their lives, grounded in education. However, beyond their attainment of individual rights, girls' education has also proven to be a remarkably effective catalyst for social development and economic growth. Therefore, it can be said that, in some sense, it is not only the individual girl who is empowered, but also the entire society (UNICEF, 2007).

Investing in women's economic empowerment sets a direct path towards gender equality, poverty eradication and inclusive economic growth (UN Women). The education can provide women an opportunity to develop and enhance her economic status, which can lead to higher GDP of a country. The SDGs work in the spirit of partnership and pragmatism to make the right choices to improve life, in a sustainable way, for future generations. They provide clear guidelines and targets for all countries to adopt in accordance with their own priorities and the environmental challenges of the world at large (United Nations Development Programme, 2018). There are 17 SDGs aimed at holistic development and at ending poverty, protecting the planet and ensuring that all people enjoy peace and prosperity. Goal 4 i.e. Ensure inclusive and quality education for all and promote lifelong learning works towards obtaining a quality education for improving people's lives and sustainable development. The target set for the attainment of the goal is to ensure that all girls and boys complete free, equitable and quality primary and secondary education, leading to relevant and effective learning outcomes by the year 2030. (United Nations Development Programme, 2017).

There is an inter-state gender gap between literacy rates of males and females, especially in the Hindi speaking belt that includes Bihar, Rajasthan, Madhya Pradesh and Uttar Pradesh, which have a female literacy rate of less than 57%. Among these states, the state of Rajasthan is combating with the twin issues of a skewed gender ratio in school enrollment and a high school dropout rate of girls (Choudhary, 2017).

The positive aspect of literacy rate is that it is increasing steadily after independence. However, a trend of decline in gender gap in literacy is visible after 1981. The government interventions and efforts of various organisations of the society have made this possible.

Education can lead to increased participation of women in the market labour force and can help in widening the tax base as well. Gender inequality in education directly affects growth resulting in low level of human capital. Lagerlof (1999) and Weil (1996) examined the links between gender inequalities in education on fertility and economic growth. Lagerlof showed that initial gender inequality in education can result in high fertility, low economic growth, continued inequality in education, thus, creating a poverty trap.

In addition to these, it has been well established that illiteracy in women increases infant mortality rate and fertility rate, decrease in life expectancy, increase in poverty and inequality that adversely affect democratic values, human rights and political stability. Education of women means providing them greater power; enabling them to make indisputable choices over the kinds of lives they seek to live. Education leads them towards a happier and healthier life. Eric Hanushek in *Schooling, Gender, Equity and Economic Outcomes* says, "Women's education not only triggers economic growth but also increases the equitability of the distribution of wealth in a society. Girls' education plays an important role in the overall development of the country. An educated woman can not only

promote education of girl children, but can also provide better guidance to all children. She can also help in reducing infant mortality rate and

growth of population. There are several benefits for educating women, which include enhanced economic participation and development.”

Table 1.1: State wise literacy rate (%) with gender gaps (GG)

Source: Office of registrar General, India

State	1991	2001	2011						
	Female Male GG	Female Male GG	Female Male GG						
Andhra Pradesh	32.7	55.1	22.4	50.4	70.3	19.9	59.1	74.9	15.7
Arunachal Pradesh	29.7	51.5	21.8	43.5	63.8	20.3	57.7	72.6	14.9
Bihar	22.0	51.4	29.4	33.1	59.7	26.6	51.5	71.2	19.7
Chhattisgarh	27.5	58.1	30.6	51.9	77.4	25.5	60.2	80.3	20.0
Delhi	67.0	82.0	15.0	74.7	87.3	12.6	80.8	90.9	10.2
Gujarat	48.6	73.1	24.5	58.6	80.5	21.9	69.7	85.8	16.1
Himachal Pradesh	52.1	75.4	23.3	67.4	85.4	18.0	75.9	89.5	13.6
Karnataka	44.3	67.3	23.0	56.9	76.1	19.2	68.1	82.5	14.4
Kerala	86.1	93.6	7.5	87.9	94.2	6.3	92.1	96.1	4.0
Madhya Pradesh	29.4	58.5	29.1	50.3	76.1	25.8	59.2	78.7	19.5
Odisha	34.7	63.1	28.4	50.5	75.4	24.9	64.0	81.6	17.6
Rajasthan	20.4	55.0	34.6	43.9	75.7	31.9	52.1	79.2	27.1
Uttar Pradesh	24.4	54.8	30.4	42.2	68.8	26.6	57.2	77.3	20.1
Goa	67.1	83.6	16.5	75.4	88.4	13.0	84.4	92.6	8.2
West Bengal	46.6	67.8	21.2	59.6	77.0	17.4	70.5	81.7	11.2
Mizoram	78.6	85.6	7.0	86.8	90.7	3.9	89.3	93.3	4.0
India	39.3	64.1	24.8	53.7	75.3	21.6	65.5	82.1	16.3

Investing in women’s economic empowerment sets a direct path towards gender equality, poverty eradication and inclusive economic growth and leads to higher GDP of a country. It also has a multiplier effect since education permeates into areas that are beyond learning, extending a positive influence in all the areas of women as well as in the lives of people surrounded by her. The idea of education and educating people around women passes on from generation to generation.

The education of girls should receive emphasis, not only on the ground of social justice, but also because it accelerates social transformation

(National Policy on Education, 1968). Numerous studies shows that illiterate women have high levels of fertility and mortality, poor nutritional status, low earning potential and little autonomy in households (Kuldeep, 2016).

However, many girls drop out of school and this reality needs to be understood better and addressed appropriately. Parent’s perception plays an important role in girls’ attainment of education. Due to various government interventions in the field of elementary education, girls have been able to perform well during their elementary education. However, when it comes to secondary education, the

situation is not satisfactory. Parents in rural areas do not want their daughters to study and assume that education has nothing to do with their future. According to them, the primary and the foremost job for a girl is to get married and be a good housewife, while getting an education, job and money is the responsibility of boys.

Economic factors are also instrumental in depriving children of education. In India, elementary education is provided free of cost to children. The parents are not financially burdened as books, uniform, mid-day meals are provided in the schools to students without any charges. However, in secondary education, parents have to bear the cost of education. Girls are assumed to be '*paraya dhan*' and an investment in girls' education is wastage to parents as their education would not benefit them or their life after marriage. On the other hand, this is not the case with boys. Their education is linked with long-term benefits as boys are considered to be the only heir of the family as well as the support of parents in old-age. Girls are often forced to study the subjects they do not prefer to study. On the assumption that they are weak, they are forced to study the subjects which are considered appropriate for girls' like Home Science and generally courses offered under Humanities stream in schools and colleges. On the other hand, boys are considered to be hardworking and intelligent and are given subjects like Science and Mathematics to study (Awasthi, 2016).

To overcome these socio-economic and cultural barriers to girls' education, Conditional Cash Transfer (CCTs) can be expected to make a meaningful difference. These schemes were introduced generally in response to India's commitment to achieve MDGs. The Millennium Development Goals (MDGs) were ambitious targets aimed at ensuring universal primary education, reducing poverty, combating infectious diseases and promoting gender equality in the world (2000). The MDGs were replaced by SDGs in the year 2015 by United

Nations Development Programme. Earlier the MDGs had catalysed action at the national and international level to unprecedented heights and fostered the use of innovative approaches that helped to lift millions of people out of poverty, saved lives and ensured that children attend school, expanded opportunities for women, increased access to clean water and freed many people from diseases (United Nations, 2011). One such approach was that of the use of conditional cash transfer programs (CCTs) (Kornacki, 2005).

In order to improve the survival and welfare of girls and to reverse the distorted sex ratio at birth, both national and state governments have launched special financial incentive schemes for girls. CCTs seek to provide short-term income support and promote long-term behavioural changes. They, therefore, have the potential to become an effective means of channelising the limited resources to the poor and socially disadvantaged sections, more specifically to girls and women. In India, the girl child is at a disadvantage and faces persisting gender inequalities and discrimination at every stage of her life, beginning with sex selection, infanticide, little or no access to education, lack of healthcare and nutrition, child marriage, and teenage pregnancy. The conditionality linked cash transfers attempts to correct such discrimination. These programmes represented a shift in the government's approach of focusing on the supply side to a more demand-driven approach (Asadullah & Chaudhury, 2009).

This study is aimed at enhancing awareness about the schemes promoting girl child education in the state of Rajasthan by developing seven animated videos that provide information about the beneficiary schemes. The study was carried out in Kotputli town and village Narhera of Jaipur district in Rajasthan. The literacy rate among the Indian population is 74.04%, out of which male literacy rate is 82.14% and female literacy rate is 65.46%. However, the literacy rate in Rajasthan is much lower than the national

average. It is 67.1%, with male literacy as 80.51% and female literacy rate as 52.7%, with a gender difference of 27.81%, and hence, these places were chosen as the locale of the study.

Some of the Conditional Cash Transfer Schemes adopted by the Rajasthan State Government are-

- *Aapki Beti Yojna*
- *Aarthik Sabalta Puraskar*
- *Balikao ko Krishi Sankay mei Addhyan hetu protsahan Yojna*
- *Balika Protsahan Yojna*
- *Gargi Puraskar Yojna*
- *Gramin Balika Transport Voucher Yojana*
- *Mukhyamantari Hamari Beti Yojna*
- *Pannadhaya Jeevan Amrit Yojna*
- *Rajiv Gandhi Vidyarthi Digital Yojna*
- *Vidyarthi Suraksha Bima Yojna*

(Rajasthan Government Portal. समस्त विभागों की योजनाएँ)

These are some schemes that provide economic support as well as material incentives to the girl students of the government schools in the state. The schemes selected for the study were- *Aapki Beti Yojna*, *Aarthik Sabalta Puraskar*, *Balikao ko Krishi Sankay mei Addhyan hetu protsahan Yojna*, *Balika Protsahan Yojna*, *Gargi Puraskar Yojna*, *Gramin Balika Transport Voucher Yojana* and *Mukhyamantari Hamari Beti Yojna*.

Diffusion of an Innovation

According to Everett Rogers model of Diffusion of Innovation and New Ideas, awareness is the first step in adoption of new behaviour. It is imperative that the information about the existence of such schemes and the provisions available are made known to the people who will benefit from such schemes. However, it has been realised that the enrollment rates under the schemes remained low due to ignorance among parents and the young girls otherwise eligible to avail the benefits of these schemes.

Entertainment-education seeks to capitalise on the popular appeal of entertainment media to show individuals how they can live safer, healthier, and happier lives (Piotrow, Kincaid, Rimon, & Rinehart, 1997; Singhal & Brown, 1996).

The videos are a medium of Entertainment Education (E-E). E-E is the process of purposely designing and implementing a media message to both entertain and educate, in order to increase audience member's knowledge about an educational issue, create favourable attitudes, shift social norms, and change overt behaviour (Singhal & Rogers, 1999; Singhal & Rogers, 2002).

According to Edgar Dale's cone of experience, videos can be an effective medium to disseminate the information to people. People generally remember 10 percent of what they read, 20 percent of what they hear, 30 percent of what they see, 50 percent of what they hear and see, 70 percent of what they say or write and 90 percent of what they say as they do something. (Khanna, A., Dhanda, K, Kumar, A., and Singh, A. 2016).

Awareness is the first step towards the adoption of new behaviour. Active awareness can lead to interest generation in people and can guide them to make appropriate decisions to try out the new behaviour, so that it can be either adopted or rejected. Videos as a medium of E-E can help to create curiosity among people to watch them and be informed in a fun way avoiding the conventional method of information giving. As the Edgar Dale's cone of learning suggests, people generally remember 50 percent of what they hear and see, videos, therefore, become an effective tool to circulate the information at large among people and can be helpful to retain the information for a longer period of time.

The respondents in the study were the students of class-IX and the teachers involved in the implementing and maintaining of documents of the schemes. The aim was to understand the need

for imparting information about the schemes and the common concerns of the students and teachers in optimally utilising the scheme and increasing enrolments. The parents of the students were also included in the study in order to understand their perspective about the process of application and challenges faced (if any). The study conducted interviews with teachers and parents of the selected students during the course of the study.

The study consisted of all 60 girls studying in Class- IX from 2 (two) government schools, namely- School 1- *Lakshmi Chand Gyanvati Devi Savaika Raajkiye Baalika uchh Madhyamik Vidyalaya*, which was located in the heart of the Kotputli town and School-2 *Rajikye Baalika Maadhyamik Vidyalaya*, which was situated at the periphery of the town in the village Narhera, in Jaipur district. Students of class-IX were selected because the students of class-IX were the primary beneficiaries of the majority of these schemes. Only the first thirty girls in a class, as per the attendance record, were selected for the study.

The study was conducted in 4 (four) phases, that is the assessment of information needs, development of intervention tools (animated videos and designing an android mobile phone application), followed by implementation of the planned intervention, and finally, assessment of gain in knowledge. In phase-1, interaction sessions were conducted with school teachers and management as well as the government officials of education department to understand the current scenario of enrollment and their limitations while implementing and availing the policies in town. In phase-2, 7 (seven) animated videos and a mobile phone application were developed, providing information about the schemes promoting education along with an android based mobile phone application. In phase-3, implementation of the planned intervention was done, wherein pre-testing was done to assess the knowledge level of girls about

the schemes. In phase-4, gain in knowledge was assessed after the intervention.

Awareness about the available schemes for girl child education

The findings revealed that all the respondents were aware that there were schemes available promoting education for girls in the state. However, they did not know the details of the specific schemes available and the incentives provided under them. The most popular scheme among the students was Nishulk Cycle Vitran Yojna as every student of class-IX had their own bicycle that they were able to use to come to school. On further probing, it was revealed that students from school-1 had to travel to a nearby school i.e. Sardar School to collect their bicycles. Whereas, students of school-2 had to submit Rs.50 as transportation charges for the truck that brought their bicycles to school. Due to the geographical location of the school (at the outskirts of the town), the cycles were transported to the school directly. Wagner (2010) in his study 'The effect of the use of video texts on ESL (English as second language) listening test-taker performance' reported that the visual components of spoken texts were useful to the listeners to retain and envision the aural information. The present study findings also revealed a similar pattern, wherein most of the students were able to understand the finer details of all the schemes for which they were eligible and would be able to avail the benefits in due course of time.

The pattern of marital status of girls in both the schools under study also remained similar to (90.00%) of them being unmarried and (10.00%) being married. Despite the fact that there has been a decline in child marriage across the country, the Census of India (2011) reveals that state of Rajasthan tops the list in the incidence of child marriages in the country, with (2.5%) of girls marrying before the legal age. However, the custom of 'gauna' exists, wherein the girls married at younger ages continue to live with

their natal families till they attain menarche and are then sent off to their marital families. In the present study as well, the married girls claimed that they were able to complete their studies as they were living with their natal families.

Majority of the respondents in the study belonged to the OBC category i.e. (58.34%), followed by SC category i.e. (20.00%), then General category i.e. (16.66%), and at last, ST category i.e. (05.00%). However, there was a difference in caste distribution between the two schools. The school situated in the heart of the town had majority of girls who belonged to the OBC category i.e. (76.66%), and in school-2 which was situated at the periphery of the town in the village Narhera, the number of girls from SC and ST families was higher than the girls from school-1 i.e. (30.00%) and (06.67%), respectively indicating that SC/ST families were still living at the margins of the town and that OBCs lived in the heart of the town.

Perception about education and future aspirations

The girls had very limited exposure, but they still wanted to be financially independent. It was thought to be important to ask these students about their perceptions of education because that gives them opportunities to think and exposes them to the outer world. It also helps to understand their plight and the kind of resources they have. The findings indicated that while they may not be too confident to pursue a job, education could give them an opportunity to be financially independent and be successful in life.

The study revealed that (40.00%) of the respondent girls wanted to be police officers. However, there was difference in the future aspirations among the students of two schools. The difference was due to the availability of subjects and teachers. In school-1 which was situated in the heart of the town, there was more number of teachers available than in school-2. In order to achieve their dreams, every respondent from the study agreed on the fact that they would

require financial help to complete their schooling. It was due to the socio-economic background they belonged to. Majority of the students belonged to families where their parents were engaged in either farming practices or were daily wage earners under the MGNREGA scheme. It was very difficult for their parents to manage the expenses. To be able to cater to their educational needs and demands, they needed financial help.

Animated videos and the mobile application

(98.34%) of the respondents were interested in watching the videos which provided information about the schemes. Sultana Yeasmin, 2016, in her study “Effectiveness of using technology supportive materials for developing listening skills among school children” said that the use of technology-supportive materials over usual learning methods is more effective for developing effective listening skills and could be a great medium to disseminate the information at large. Thus, it can be said that the intervention triggered the need to learn more among the students as the information provided to them was relevant to them. The videos were useful in opening their minds to other lucrative options available for them.

The students were curious to know about different schemes. It was noticed that (15.00%) of the respondents were keen to know about new schemes available to them. *Palanhar Yojna* was the most popular scheme as students were keen to know more about it. It is a scheme that is useful for both girls and boys whose parents are either dead or are suffering from incurable diseases. The enrolment for this scheme is not provided by the schools. The candidates can enroll themselves for this scheme online or via e-mitra stations.

Teachers’ and Parents’ perception about need of imparting knowledge about schemes and the challenges faced by them

The interactions with teachers disclosed that for them the most tedious task of documentation of

schemes was that they had to keep records that were time consuming. According to them, the parents should be more vigilant towards their daughter's future so that they could avail the maximum benefits from the scheme.

Due to non-availability of parents, only one mother could be interviewed. The interaction with her lead to the discovery that she had visited her daughter's school for the first time in her life as she never had time to visit the school. Being a single parent (widow), she was always busy with home and business (shop) which was her only source of income. On further probing, it was revealed that she had knowledge about the availability of schemes for girls but did not know the names of the schemes under which her daughter was enrolled. Most of the parents were enrolled under MGNREGA scheme, which left them with very little time to interact with their children. Due to lack of money, the parents were unable to enroll their daughters under beneficiary schemes, even if they wanted to enroll them.

Through the interaction with teachers and parents, it can be said that both of them had their own problems and limitations. It was very difficult for one teacher to collect the documents for 40-50 students alone, as the process of documentation requires time and energy. Despite the fact that the students were given a period of 10 days for collecting the documents, the students were often unable to collect the

documents on time and the lack of meeting the timeliness by students often created problems for teachers.

Conclusion

The study clearly outlines the successful use of audio-visual methods in the information dissemination process. The study showed that innovative methods, when used in school for information-giving process, can trigger the need to learn more among the students. The videos were useful in opening their minds to other lucrative options available for them because the information provided to them was relevant to them. The study also showcased that despite limited exposure and opportunities available to girls, they still wanted to be successful in life and be financially independent.

The planned intervention helped the students to gain knowledge about the various schemes available for them and tried to make them self-aware of their rights as citizens of India. At present, the mobile application-Rajasthan Sarkar ki Yojna has been downloaded by thousands of people so far and has been shared by people through different platforms as a potential application for providing information to people in a fun and non-threatening way, indicating that such efforts need to be scaled up to reach out to all eligible girls. Thus, it can be said that the intervention had been a success and it has become a potential medium for disseminating information about the schemes.

REFERENCES

- Ahamad, T., & Narayana, A. (2015). Girl education: A lifeline to rural transformation in India. *International Journal of Applied Research*, 1, 84-87. Retrieved from <http://www.allresearchjournal.com/archives/2015/vol1issue6/PartB/97.1.pdf>
- Aparna, K., Komita, D., Archana, K., Anjali, S., (2016). Dynamics of Human Communication. In Sarita Anand & Archana Kumar (Eds.), *Learning and Communication* (pp.119-140), Noida, India: Orient Blackswan Private Limited.
- Asadullah, M.N., Chaudhury, N. (2009). Reverse gender gap in schooling in Bangladesh: insights from urban and rural households. *J Dev Stud*. 45(8):1360–1380. doi: 10.1080/00220380902935824.

Chandra, R., Pant, Pankaj., and Lohani, S., (2016). Educational Strategies for Girl Education. In D. Awasthi (Eds), *Girl Education in India* (1st ed., pp. 151-161). Delhi: Kalpaz Publications.

Choudhary, KC., (2017) . Women Education-An Overview! *Journal of Social Welfare*, (7-10).

David, W., Oded, G. (1996). The gender gap, fertility and growth! *American Economic Review*, 1-23.

Hanushek, E. (2008). Schooling gender equity and economic outcomes. In M. Tembon & L. Fort (Eds), *Girls' education in the 21st century: Gender equality, empowerment and economic growth* (pp. 23-40). Washington: The World Bank

Kornacki, B. (2005). "Conditional Cash Transfers: Progress Towards the Millennium Development Goals." Sustainable Development Law & Policy, Washington DC: College of Law, American University.

Kuldeep, N., (2016) An Investigation of Gender Inequality Policy Initiatives Towards Girls' Education in Rajasthan. In In D. Awasthi (Eds), *Girl Education in India* (1st ed., pp. 177-191). Delhi: Kalpaz Publications.

Ministry of Home Affairs. (2011). *Census of India: State of Literacy*. (Government of India Census Report). India. last accessed on 6th April 2018.

Rajasthan Government Portal. समस्त विभागों की योजनाएँ. Retrieved from <http://ibs.rajasthan.gov.in/ViewScheme.aspx?action=view&viewid=6> last accessed on 8th April 2018.

Singhal. A., Rogers. E. (1999). Entertainment-Education: A Communication Strategy for Social Change. [e-book]. Retrieved from <https://books.google.co.in/books?id=3-7gxbBDb4C&q=> last accessed on 12th April 2018.

Sultana, Y. (2016). Effectiveness of Using Technology Supportive Materials for Developing Listening Skills among School Children! *Journal of Indian Education*, XLII (3), 48-55.

UN Women. (n.d.). *SDG 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all*. Retrieved from <http://www.unwomen.org/en/news/in-focus/women-and-the-sdgs/sdg-4-quality-education> last accessed on 8th April 2018.

United Nations. (n.d.). *17 Goals to transform our world*. Retrieved from <https://www.un.org/sustainabledevelopment/education/> last accessed on 8th April 2018.

United Nations Development Programme. (n.d.). *Sustainable Development Goals*. Retrieved from <http://www.undp.org/content/undp/en/home/sustainable-development-goals.html> last accessed on 8th April 2018.

Wagner, E. (2010), The effect of the use of video texts on ESL listening test-taker performance! *Sage Publications*, 27(4). <https://doi.org/10.1177/0265532209355668>

Perception of Parents and Students about educational and occupational aspirations of adolescents: An insight into existing gender based differentials and its influence on school well-being

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ABSTRACT

It is an established fact that mothers who are educated rear children better. Women's education is a building block in promoting national development. Studies prove that women's education can potentially improve the socio-economic position of their families. It is the inequality in access to education for female students, especially in a patriarchy-dominated India, that prevents them from obtaining the essential education that is necessary for their well-being and their family's development.

According to the latest data by National Family Health Survey-4 (2015-2016), 74.70% of women are literate whereas 86.90% of men are literate. Gender discrimination has been the main obstacle in educating girls as well as women. Against this background, the present study aimed to seek the perceptions of key stakeholders, parents and students, and gain insight into gender differentials in educational and occupational aspirations of adolescent girls and boys and how it impacts their school well-being. The study also examined the factors leading to differentials and their manifestations in terms of choices made by adolescents and their parents. Set in a peri-urban community of New Ashok Nagar in Delhi, the study used semistructured interviews and four focus group discussions (FGDs) as the primary tools to elicit desired information.

The study clearly articulated that gender differentials existed strongly in each and every household under observation. These manifested as: the majority of girls being sent to government schools, while their brothers were studying in private schools; boys preferring science and commerce as their specialisation stream and girls humanities; boys being encouraged to take up private coaching; boys wanting to take up professional jobs and girls limiting their occupational aspirations to that of a teacher. The underlying causes for this could be the inherent patriarchy and social norms that perceive males as the bread-earner whilst girls as homemakers. Besides the strongly held perception about limiting girls education to the bare minimum as she would get married soon, these norms also inhibited girls from choosing streams which had flourishing job prospects. Consequently, the girls felt victimised and perceived themselves as the "weaker sex", compared to boys. All forms of gender discrimination at family and school level made them succumb to the societal norms and often affected their emotional and mental well-being at school, which in turn could also influence their performance levels.

A shift from accepting these differentials as 'normal and pragmatic' to 'inhibiting and unrealistic' is needed to strengthen the education system and make it inclusive.

Keywords: *Education, School Well-being, Well being of girls, Gender differentials in education, Educational aspirations, Gender discrimination*

Introduction: Development & Education

According to United Nations Development Programme (UNDP, 2015), Human Development is the process of analysing people's choices. "Human Development" is measured by life expectancy, adult literacy, access to all three levels of education, as well as people's average income. The Human Development Index (HDI) is a composite index, focusing on three basic dimensions of human development: to lead a long and healthy life, measured by life expectancy at birth; the ability to acquire knowledge, measured by mean years of schooling and expected years of schooling; and the ability to achieve a decent standard of living, measured by gross national income per capita. The HDI rank of India is 130 and the value is 0.609 in 2014 (UNDP, 2015). The Gender Development Index (GDI) measures gender gaps in human development achievements by accounting for disparities between women and men in three basic dimensions of human development - health, knowledge and living standards, using the same component indicators as in the HDI. The GDI value of India is 0.795 in 2014 (UNDP, 2015).

Education and Gender

According to UNDP (2015), "To ensure inclusive and equitable quality education and promote lifelong learning opportunities for all" and to "Achieve gender equality and empower all women and girls" are two goals of the seventeen Sustainable Development Goals (SDGs). It mandates equal participation at the three levels (primary, secondary and senior secondary) of education and stresses on equal opportunity of education for both boys and girls, which is instrumental in reducing gender inequality. The goals in itself says that it is necessary to complete, free, equitable and

quality of education. In education, equity means equal access to good schooling. Education plays a major role in human development as it is one of the indicators of human development which impacts overall socio-economic development and it has the potential to improve human capital, eliminate the discrimination in all aspects in the society, declining fertility and reduction in poverty (Kaur, 2012). Education is very important for every child, whether boy or girl. It is sad that some communities still discriminate against the education of the girl child. Education is the key factor for girls' empowerment, prosperity, development and well-being. Education for girls and women is the single most effective way to improve the lives of individual families as well as to bring economic development and foster well-being among poor communities worldwide.

Education promotes and sustains economic growth and technological development (Kaur, 2012). Gender makes an important factor in determining the education level of an individual, wherein women and girls are lagging behind (Katiyar, 2016). Gender inequality in education affects both girls and boys, and women and men, but girls and women are still more often disadvantaged. Gender remains the most pervasive axis of inequality in the sphere of education across societies and levels of development, although several countries have narrowed the gender gap in access to educational opportunities, at least at school levels (Alam, 2007).

For women particularly, education is the first window towards change. Education has an intrinsic value for the woman. It is supposed to enrich her, add to her self-awareness and self-esteem, enhance her well-being and open up options for her outside of the gendered roles of

daughter, wife and mother. Education at secondary and tertiary levels is important in reducing the extent of poverty, infant mortality rate and in raising the levels of economic growth. Thus, education at such levels has a lot to do with the attainment of higher status of human level (Kundal, 2016). Women's education in India plays a significant role in the overall growth of the country. It not only helps in the development of half of the human capital, but also helps in improving the standard of living (Pathak & Gupta, 2013). Women and girls in the developing world are often denied opportunities for education and this lack of access limits prospects, decreases family income, reduces health, puts women and girls at risk of trafficking and exploitation, and limits the economic advancement of entire countries (Ahamad & Narayana, 2015).

Educated women not only tend to promote the education of their girl children, but also can provide better guidance to all their children and their future (Pathak & Gupta, 2013). Moreover, educated women can also help in the reduction of infant mortality rate, growth of the population, reduction of poverty and unemployment, by supporting their families' thoroughly (Kumar & Sangeeta, 2013).

According to Census of India 2011, the literacy rate of India is 74%, in which the rate of literacy for men is 82.1%; for women is 65.5%. This difference in itself shows the skewed status of girls' education in India. It is virtually disheartening to observe that the literacy rate of women in India is even much lower than the national average i.e. 74.04 (Kumar & Sangeeta, 2013). As the result of the low priority placed on women's education within families, India has one of the lowest female literacy rates in Asia. In addition, there is a large gender gap between the literacy rates for males and females.

Gender discrimination: Prevalence and Factors

Gender discrimination in education exists because the parents' preference towards educating boys than girls, due to biased cultural norms or attitudes (Khalid, 2008). A key factor that contributes to gender discrimination against daughters is women's status (Bose, 2012). Discrimination against girls begins at and sometime by the birth of child. It does not stop after childhood, but continues during adolescence, in terms of health and education (Duhan, 2014). Gender discrimination, in terms of literacy rate, is even worse in the age group of 15-19 years (Kundal, 2016). The low literacy among women brings down national literacy. The gap that exists between the literacy rates of the two sexes also exists between the enrolment of girls and boys at all levels of education. Right from the primary school to the university, the number of girl students is considerably lower than the number of boys (Kumar & Sangeeta, 2013).

A woman in India remains at home for domestic routine work, while men, on the other hand, are the bread earners (Das & Bhagabati, 2016). Due to this, women fall far behind men in almost all spheres of life (Katiyar, 2016). The dropout rate among girls is also to know the educational and occupational aspirations of adolescent boys and girls found high. According to the Ministry of Human Resource Development (MHRD, 2014), above fifteen years' age group literacy rate of males is 78.8% and for females is 59.3%. The girls are withdrawn from the school after completing VIIIth class or XIIth class because they must contribute in the household chores and take care of their younger siblings or because of financial crisis. Discrimination against daughters is often thought to be a direct consequence of the preference for sons. Due to this, the practice of female foeticide and female infanticide happens within the families. In rural areas, girl's education is also restricted because parents do not allow their daughters to travel beyond the village (Bose, 2012). One of the major factors for gender discrimination is Poverty. Parents

with low income and having limited resources need economic incentive to spare their daughters for school as they prefer to send their sons to school first (Kaul, 2015). Religion and socio-cultural factors influence parent's choice and they may tend to search for a school where only girls are admitted or where only women teachers are employed. Mostly, they send their daughters to government schools and send their sons to private schools. This greatly influences the experienced well-being of girls in a school environment. One of the factors is the concern for physical and moral safety of girls, which makes parents unwilling to let them travel distances to school each day (Ahmad & Narayana, 2015). The lack of toilets in schools also acts as a hindrance. Other problems against women's education include familiar problems like lack of funds, inadequate facilities, inadequate work force, sexual harassment, conflicting societal role expectations, government policies and lack of political will power to implement the entire educational programme (Kumar & Sangeeta, 2013). This affects the girls' schooling and leads to a drop out, particularly as they reach puberty (Kaul, 2015). Pathak & Gupta (2013) noted that girls were less likely to access school, to remain in school or to achieve an education and more likely to have their school well-being affected (Kushwaha & Vandana, 2012).

Educational and Occupational Aspirations

Other more subtle forms of discrimination include the encouragement of boys over girls in terms of their ambitions and their studies, or the differential treatment given to boys and girls, with respect to behaviour expectations (Duhan, 2014). Education plays a significant role in the future plans of young people. Higher levels of education have been associated with a higher prestigious profession, higher income as well as a higher standard of living, and hence, it impacts the overall well-being of an individual (Ana, 2015).

Ana's research (2015) shows that parents play a crucial role in the education of their children and in shaping their educational and occupational aspirations. The focus is given to the role of the parents in transmitting their self-perceptions to their children's core ideas, which shape their future career. Educational and occupational aspirations are an important variable predicted by academic achievement and are crucial components in academic achievement motivation (Ana, 2015). Occupational aspirations are individuals' expressed career-related goals or choices that affect their motivation and decision-making, with respect to their occupational choices and subsequent participation in the occupation (Andleeb & Ansari, 2016).

Methods:

Study Background:

The study of Kundal (2016) stated that gender discrimination, in terms of literacy, is the worst in the age group of 15-19 years. Hence, this study attempted to understand the gender differentials in educational and occupational aspirations among boys and girls and the factors responsible for it. Since parental aspirations for the children are a crucial determinant for the kind of education they seek, it was crucial to know the viewpoints of mothers regarding the educational and occupational aspirations they hold for their children and the reasons thereof.

Locale of the study

A slum community of New Ashok Nagar in Delhi was selected for this particular study. In New Ashok Nagar, the majority of families are migrants from different parts of the country. To gain a holistic understanding of the locale, four blocks of this locality were selected for this particular study.

Sampling

The study aimed to know the educational and occupational aspirations of boys and girls as well as the aspirations held by mothers and fathers for

their son(s) and daughter(s). Thus, the respondents in the study were girls and boys in the 15-19 years of age group and their mothers and fathers. Adhaar is the local grass root NGO, which helped in finding a foothold into the community and in identifying the families as per the inclusion criteria.

Only those families were selected where there was at least one daughter and one son in the age group of 15-19 years, to draw out the differentials in the aspirations of children themselves and their parents for their son(s) and daughter(s) and to understand how these differences affected their perceived well-being.

The study consisted of a sample of forty (40) Girls and forty (40) Boys in the 15-19 years age group and forty (40) mothers and forty (40) fathers (ten (10) each from the four blocks) were also selected for the study. The detailed sampling layout is shown in figure 1.

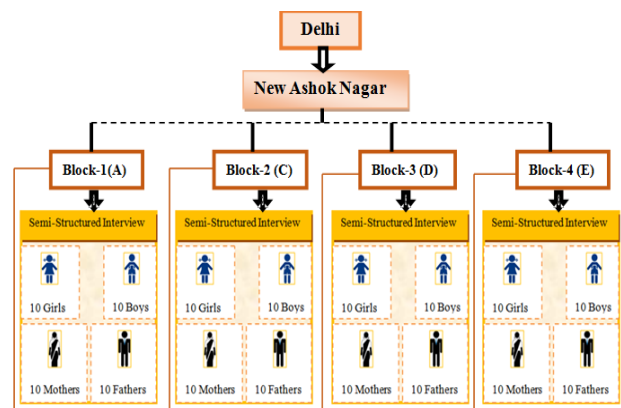


Fig1: Sampling layout for the study

Purposive sampling was used at all stages of the study as the research demanded a specific sample to be included in the design.

Tools for data collection

The interviews were conducted with forty (40) girls and forty (40) boys from four blocks in the age group of 15-19 years, as well as with their parents, using a semi-structured schedule. The interview schedule with this sample helped us to determine the difference between the educational and occupational aspiration among adolescent boys and girls and the factors responsible for it. Further, it provided an insight into the mothers’

and fathers’ expectations from their son(s) and daughter(s), regarding the educational and occupational aspirations. It helped us to determine the gender differentials (if any) in the aspiration of parents for their children and how it influenced their perceived well-being.

Findings & Discussion:

The findings, reported below, are based on the interviews conducted with forty (40) girls and forty (40) boys in the 15-19 years of age group respectively, from four blocks (Part 1), and with forty (40) mothers and forty (40) fathers, ten (10) each from the four blocks (Part 2).

1.1 Type of School and College

The figure 1.1 shows the numbers of respondents attending the educational institution at the time of the research. The options included both private and government schools and colleges.

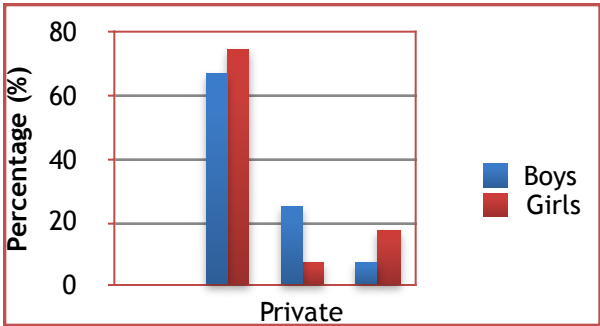


Fig1.1: Type of School and College

According to the study of Ahamad & Narayana, (2015) it was found that children are sent to school, not according to their intelligence or aptitude, but according to their sex. As it can be seen from figure 1.1, a majority of the girls were sent to government schools, that is seventy five percent (75%), and the boys i.e. 67.50%. Quarter of the boys were sent to the private school, whereas for girls this was significantly lower, at just 7.50%. It may be said that these girls were facing discrimination, being sent to government schools, which affected their perceived well-being because they were able to understand the gender bias within their family and felt weaker. Many researchers have found that there were parents who think that if they send their daughters to a private school and invest more on

them, it is a wastage of money as their daughters would get married and become housewives. This could also be attributed to the perception that girls must help in household work. It can be seen from the figure above, that when compared to boys, more girls were going to college i.e. 17.50%. The girls mentioned that they engaged in correspondence and vocational training courses and wanted to pursue courses like computer, tailoring, parlor and fashion designing etc.

1.2 Preferred stream and its reasons

The figure 1.2 shows the number of the respondents, as per their preferred stream.

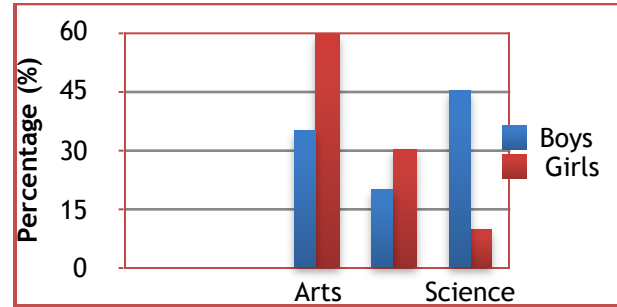


Fig: 1.2 Preferred stream

The study found that maximum number of the girls had chosen an art stream, that is sixty percent (60%), whereas for boys, it was only thirty five percent (35%). Art, being a low career-oriented scheme, was the preferred option for girls. This may be because of the gender discrimination they face at home, in terms of the types of schools that limit their educational and career aspirations, hence affecting their well-being. There were thirty percent (30%) girls and twenty percent (20%) boys respectively, who opted for the commerce stream. It can be seen that a majority of the boys had chosen the science stream i.e. forty five percent (45%), however in the case of girls, there were only ten percent (10%). This may probably be because the arts stream is considered as an easy subject and is less expensive than the other two streams. Due to these reasons, girls may have opted for the arts stream. A research by Lorz et.al (2016) has pointed out that girls were studying in

government schools because they did not offer the science stream. Hence, they may prefer to choose the arts stream.

1.3 Reasons for preferred stream

When probed for reasons for choosing a particular stream, the responses varied. Majority of the boys (52.59%), as compared to girls (37.50%), had chosen the streams due to different career ambitions as they wanted to become IAS (Indian Administrative Services) or IPS (Indian Police Service) officers, doctors, engineers, scientists, teachers, lawyers, police officers, C.A (Chartered Accountants), fashion designers or wanted to get into the national forces. This may be probably because the career aspiration of boys were more inclined towards the science stream, which guaranteed them more job opportunities and better salaries.

Table 1.3: Reasons for preferred stream

Reasons for stream	Boys (n1=40)		Girls (n2=40)	
	f	%	f	%
Poor quality education	1	02.50	3	07.50
Different career ambition	24	60.00	15	37.50
Interest	10	25.00	6	15.00
Financial constraint and family pressure	0	00.00	11	27.50
Less marks	5	12.50	5	12.50
Total	40	100.0	40	100.0

Only the girls mentioned the financial constraint and family pressure as one of the reasons to choose their stream, which clearly articulates the existing gender bias within the family system, that may lead to lower perception about self and well-being. Although, both the boys and girls were from same household and shared the same

resources, only the girls felt these issues more deeply.

1.4 Educational Aspirations

According to Kaur, (2012), educational aspiration is an important variable in predicting academic achievement as it enhances the desire for success and the development of goals to succeed in particular educational fields.

Education plays a significant role in the future plans of adolescent boys and girls. Higher levels of education have been associated with prestigious professional opportunities, higher income and higher standard of living, thus, influencing an individual’s perceived well-being (Ana, 2015).

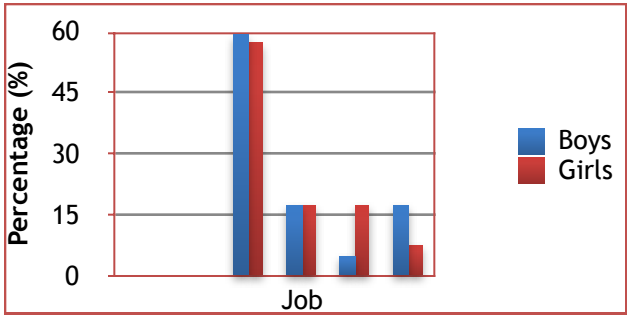


Fig: 1.4 Future plans after schooling

It can be seen that the maximum number of the respondents (60% of boys and 57.50% of girls) wanted to pursue further education. While 17.50% of boys and girls wanted to do a job after completing school, the rest of them (17.50% of boys and 07.50% of girls) wanted to pursue an education and a job together. Both boys and girls mentioned that they wanted to do a part-time job and earn some money, so they could invest in their further education themselves. It has been inferred by some studies that more girls were not sure about pursuing further education because of financial problems. They did not have the support from their parents to do anything further as they had to contribute in household chores, take care of their younger siblings, due topatriarchy (Bose, 2012), (Kaul, 2015).

1.5 Barriers faced in education

As seen from the figure 1.5, girls were more likely to face barriers in education relative to boys.

Fig1.5: Barriers faced in education

It can be clearly seen that majority of the boys (82.50%) and girls (57.50%) were not facing any difficulties in education, however 17.50% of boys and 42.50% of girls were facing difficulties. It is worth mentioning that both boys and girls shared and had the same resources, but more girls expressed that they were facing difficulties in pursuing education due to financial constraints and limited time for academic tasks. This is clearly reflective of the gender differentials in education prevailing within the households of the study. The probable reasons for this could be that the parents could be pressurising girls to do household chores and take care of their younger siblings, due to which they gave less attention to studies. All forms of gender discrimination at family levels made them succumb to the societal norms and may affect their emotional and mental well-being at school, which in turn could also influence their performance levels.

Besides this, the lack of interest in the subjects and the lack of opportunity to get good coaching could also add to the barriers. Being aware of the fact that they are being discriminated could also lower their perceived well-being as well as their educational and occupational aspirations.

1.6 Getting support from the family

The table below shows the number of respondents who received support from their family. It is very important to get family support as it helps in accomplishing the aims and attaining better education. The study tried to find out the same for the current sample.

Table 1.6: Getting support from the family

	Boys (n1=40)	Girls (n2=39)
Getting support		

	f	%	f	%
Father	13	32.50	4	10.26
Mother	11	27.50	15	38.46
Elder Sibling	3	07.50	1	02.56
Father and Mother	10	25.00	15	38.46
All	2	07.50	4	10.25
Total	40	100.0	39	100.0

The table 1.6 indicates that all the boys and nearly hundred percent (100%) of girls got the support from the family. In most cases, the fathers supported their sons, whereas the number was less for girls. It may be said that there is a preference for sons within the families because of the assumption that boys provide support in their parents’ old age and are the preferred heirs of property. whereas, daughters are perceived to be a liability because parents have to spend more money on their marriage and do not get any financial return from their daughter’s labours (Bose, 2012). A little more than one third of the girls expressed getting support from only mothers and both the parents respectively. Mothers had more expectations from their daughters and were more concerned about their education.

1.7 Occupation Aspiration

Occupational aspirations are an individual’s expressed careerrelated goals or choices that affect their motivation and decision-making, with respect to their occupational choice and subsequent participation in the occupation (Andleeb & Ansari, 2016).

For the present study the occupational aspiration of the respondents included parameters such as the wish to work after completing education, the type of profession and its reason etc.

The table 1.7 shows the occupation aspirations held by the respondents after completing their education and their preferred jobs, as per their interest. Through educational processes, adolescents gain necessary skills and the

competency to decide their educational and occupational aspirations. If gender equity exists, chances are that the degree of perceived well-being would be high and that would influence positive educational and occupational aspirations. Educational and occupational aspirations are an important variable predicted by academic achievement (Ana, 2015).

Table 1.7: Wish to work after completing education

Wish to work after completing education	Boys (n1=40)		Girls (n2=40)	
	f	%	F	%
No	1	02.50	3	07.50
Yes	39	97.50	37	92.50
Total	40	100.0	40	100.0
Type of profession	Boys (n1=39)		Girls (n2=37)	
	f	%	F	%
Teacher	1	02.56	13	35.14
Professional jobs	10	25.64	4	10.81
Vocational skilled based	4	10.26	3	08.10
Police and defense related	2	05.13	0	00.00
Others	22	56.41	17	45.95
Total	39	100.0	37	100.0

The tables indicate that 97.50% of boys and 92.50% of girls wanted to work after completing education. As compared to boys, 07.50% of girls did not want to work. This could be because of family pressure and financial constraints or due to the biased attitude of parents towards the two siblings. It can be seen that more than a third of the girls (35.15%) wanted to pursue the job of a teacher. Similarly, the study by Kushwaha & Vandana (2012) also stated that teaching is

presumed to be a very good profession for girls because of the perception that it is a safe career option, with less workload and convenient timings.

Most of the boys i.e. 56.41% and 45.95% of girls wanted to do other jobs. For boys, this included plumber, electrician, polytechnic, business, government or private jobs, whereas for girls, this included beautician, tailoring, computer-based jobs because of their large interest in it. As compared to girls, boys were more inclined to do defense-related and professional jobs. A few girls also mentioned that they were not allowed to do a job. This could be due to marriage, fear of safety and security as well as domestic responsibilities.

1.8 Aim for future

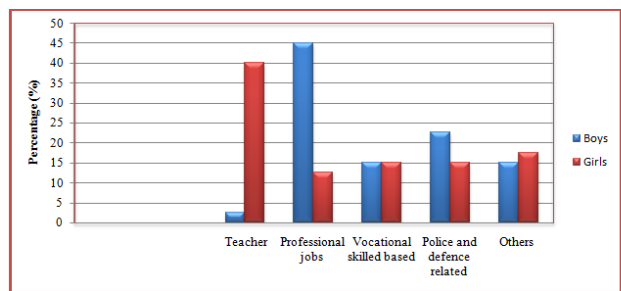


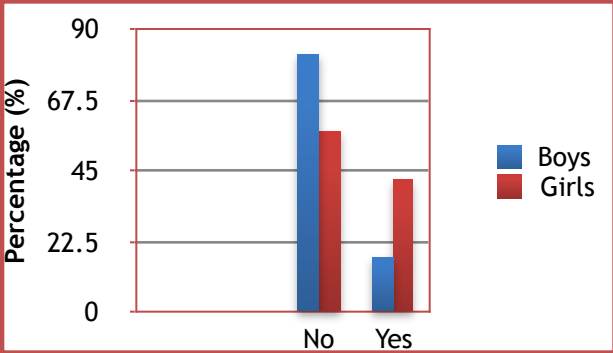
Fig 1.8: Aim for future

As seen from figure 1.8 maximum number of girls i.e. forty percent (40%) wanted to become a teacher as compared to boys i.e. 02.50%; this could possibly be due to pruning of girl’s mindset which reinforces that a teacher’s job is the most suited for girls. Similar findings were determined by Kushwaha & Vandana (2012). Maximum number of boys, that is forty five percent (45%), wanted to become a professional, that included options like doctor, engineer, pilot, scientist or C.A (Chartered Accountant). Probably, the girls considered science subjects more difficult. It may be said that the boys saw more scope in professional jobs, in terms of career opportunities and financial prospects. The five percent (5%) girls clearly mentioned that they were not allowed to attain higher education and do work after that. The deterred motivation explicitly articulates how gender discrimination

at home during the school years affected their well-being and influenced their educational and occupational aspirations later in life.

PART 2

This part of the study mentioned seeking



perception from the mothers and fathers. The study had earlier proposed to conduct interviews with forty mothers and fathers, respectively. However, due to the unavailability of fathers, only fourteen (14) fathers could be interviewed.

2.1 Importance of Education

Today, Education has become an arena of conflict, where struggles of the marginalised are taking place (Kaul, 2015). The table 2.1 below shows the number of respondents for the perceived reasons on importance of education.

Table: 2.1 Importance of education (Reasons)

Importance of education (Reasons)	Mother (n1=40)		Father (n2=14)	
	f	%	f	%
Job security	8	20.00	4	28.57
Right to education	5	12.50	3	21.43
Independent	8	20.00	1	07.14
Well-being and secured future	19	47.50	6	42.85
Total	40	100.0	14	100.0

It was found that both mothers and fathers mentioned that education is very important. Majority of the mothers and fathers felt that education is important because it assured their children’s well-being and promised a better and secure future. About 28.57% of fathers and

twenty percent (20%) of mothers gave importance to education as it provides job security, which helped them to become independent.

2.2 Educational Aspiration for Boys and Girls

For the present study, the educational aspirations held by parents for their sons and daughters included parameters such as maximum educational qualifications they can attain and reasons of it.

Table 2.2: Educational Aspirations for Boys and Girls

Maximum Education qualification	Mother (n1=40)		Father (n2=14)	
	F	%	f	%
Equal higher education for both	12	30.00	6	42.85
Graduation complete	5	12.50	1	07.14
Higher education for boys and senior secondary education for girls	4	10.00	4	28.57
Senior secondary education	3	07.50	3	21.44
Based on children	16	40.00	0	00.00
Total	40	100.0	14	100.0
Reason for maximum education qualification	Mother (n1=40)		Father (n2=14)	
	F	%	f	%
Job security	12	30.00	3	21.43

Marriage	3	07.50	3	21.43
Well-being & Good future	13	32.50	6	42.85
Independent	5	12.50	0	00.00
Well educated	3	07.50	2	14.28
Achieve their aim	4	10.00	0	00.00
Total	40	100.0	14	100.0

It was found that the majority of t mothers and fathers said that equal education should exist for both boys and girls. They assured that both were equal for them. They felt that they would not stop their daughters and sons from studying. Further, they clearly mentioned that they had no idea about what kind of education would lead to what kind of occupation. Nearly thirty percent (30%) of fathers and ten percent (10%) of mothers said that they would want higher education for boys and senior secondary education for girls (table 2.2). It may be said that parents perceived investing in girls’ education as something with limited return, because they felt that after completing school, girls would get married. It can be seen that none of the fathers said that they would value their child’s wish to pursue maximum education, whereas forty percent (40%) mothers were of the opinion that they would encourage their children to pursue their education as per their wish. Reasons mentioned by a majority of mothers included securing a good job i.e. 30% and well-being of the children and a good future (32.50%). Majority of the fathers (42.85%) mentioned a good future for their children. Interestingly, 21.43% of the fathers opined that attainment of higher education limits a girl’s chance to find a good partner for marriage. It has been earlier found that investing in girls is considered a poor investment because their parents did not get the returns (Igei &Yuki, 2015).

2.3 Encouragement for different career options

The table 2.3 below shows the distribution of respondents on the basis whether they would allow their sons and daughters to choose different career options, apart from their parent’s aspiration.

Table 2.3: Encouragement for different career options

Encouragement of different career options	Mother (n1=40)		Father (n2=14)	
	f	%	f	%
Not allow	3	07.50	1	07.14
Guide them	3	07.50	0	00.00
Give support	32	80.00	11	78.57
Only allow son	2	05.00	2	14.28
Total	40	100.0	14	100.0

It was found that nearly three fourth of the fathers and three fourth of the mothers were supportive of their child’s wish to pursue a different career option. Only 07.50% of the mothers did not allow and guide their children to pursue their aspirations. It can be seen that a few of them allowed only their sons to pursue a different career option. According to the earlier studies, it was found that sons are preferred because they continue the patrilineal clan and provide financial support, become heirs of property and they are seen to be future bread-earners in families, whereas daughters are perceived to be a liability because parents do not get any financial return, owing to their early marriage.

2.4 Occupational Aspiration for Boys and Girls

For the present study, the occupational aspirations held by parents included parameters such as appropriate jobs for boys and girls, and the reasons thereof. Table 2.4 shows that the aspirations of appropriate jobs for boys and girls, held by mothers and fathers.

The study found that the maximum number of parents had aspired that boys and girls could do any kind of jobs. It can be seen that more number of parents had aspired for the girls to take up the profession of a teacher. It may be said that teaching job was considered most respectful due to convenient timings and safety concerns. Some mothers and fathers did not allow their daughters to do any job. They did not stop their sons from working, but they did not allow their daughters to have jobs because of the perception that girls get married and that it is uncertain whether their in-laws were in favour of them working or not.

It can be clearly seen that vocational skill-based jobs that included fashion designing, tailoring, beautician etc. were considered appropriate for only girls, whereas police and defense jobs were considered appropriate only for boys. It was observed the mothers expressed that they wanted their daughters to have jobs that could enhance their skills in the future and make them financially independent. Whereas, for the sons, a different trend was observed wherein mothers aspired their sons to take up employment-oriented or civil/ defense jobs.

Table 2.4: Appropriate job for boys and girls

Appropriate jobs	For Boys				For Girls				TOTAL (Mothers &Fathers) Boys (N=54)		TOTAL (Mothers &Fathers) Girls (N=54)	
	Mothers (n1=40)		Fathers (n2=14)		Mothers (n1=40)		Fathers (n2=14)					
	f	%	f	%	f	%	f	%	f	%	f	%
Teacher	0	00.00	1	07.14	10	25.00	7	50.00	1	01.85	17	31.48

Professional jobs	4	10.00	3	21.42	1	02.50	1	07.14	7	12.96	2	03.70
Vocational skill based	0	00.00	0	00.00	2	05.00	0	00.00	0	00.00	2	03.70
Police and defense jobs	1	02.50	2	14.29	0	00.00	0	00.00	3	05.56	0	00.00
All works	30	75.00	6	42.86	18	45.00	4	28.57	36	66.67	22	40.74
Others	5	12.50	2	14.29	9	22.50	2	14.29	7	12.96	11	20.37
Total	40	100.0	14	100.0	40	100.0	14	100.0	54	100.0	54	100.0

According to the study by Duhan (2014), it was found that mothers felt that boys may be encouraged to adopt occupations that required more energy and time, whereas girls may be encouraged to involve themselves in light work as their main task is housekeeping. Some mothers and fathers mentioned that boys could do any kind of jobs, except being a chef or tailor because that is considered appropriate for only girls. This revelation is in absolute cognizance with the study by Igei & Yuki (2015), which states that parental perception was largely affected by social norms and son preference.

Conclusion:

Education plays a significant role in the future plans of adolescent boys and girls. Higher levels of education have been associated with prestigious professional opportunities, higher income and higher standard of living, thus, influencing one’s perceived well-being (Ana, 2015).

The study clearly articulated that gender differentials existed strongly in each and every household, in terms of educational and occupational aspirations by students and parents alike, manifesting in different ways. These included: majority of the girls being sent to

government schools unlike their brothers, who were studying in private schools; boys preferring to choose science and commerce as their specialisation stream and girls humanities; boys being encouraged to take up private coaching; boys wanting to take up professional jobs and girls limiting their occupational aspirations to that of a teacher. The underlying causes for this could be the inherent patriarchy and social norms that perceive males as the bread-earners, whilst girls as homemakers. Besides the strongly held perception about limiting girls education to a bare minimum as she would get married soon, society also inhibited girls from choosing streams which had flourishing job prospects. Consequently, the girls felt victimised and perceived themselves the weaker sex as compared to boys. All forms of gender discrimination at family and school levels made them succumb to the societal norms, affected their emotional and mental well-being at school, which in turn also influenced their performance levels.

A shift from accepting these differentials as ‘normal and pragmatic’ to ‘inhibiting and unrealistic’ is needed to strengthen the education system and make it inclusive.

REFERENCES

Ahamad, T., & Narayana, A. (2015). Girl education: A lifeline to rural transformation in India. *International Journal of Applied Research*, 1, 84-87. Retrieved from <https://www.google.co.in/url?q=http://www.allresearchjournal.com/archives/2015/vol1issue6/PartB/97.1.pdf&sa=U&ved=0ahUKEwiA2Pmq->

[K_OAhUFQY8KHZlxDEgQFggHMAA&usg=AFQjCNH1HScYswy_1f6zDxz2eSzvXX4T5A](http://www.google.co.in/url?q=http://sch.sagepub.com/content/37/4/153.full.pdf&sa=U&ved=0ahUKEwj46MrC19fRAhXF8CYKHQGzCHcQFggSMAA&usg=AFQjCNE_WUqdKA5U4-lj5M3Aw9S5fogk4Q) on 4th August, 2016.

- Alam, M.S. (2007). Interrogating Gender Inequality in Educational Attainment in India. *Social Change*, 37, 153-179. Retrieved from http://www.google.co.in/url?q=http://sch.sagepub.com/content/37/4/153.full.pdf&sa=U&ved=0ahUKEwj46MrC19fRAhXF8CYKHQGzCHcQFggSMAA&usg=AFQjCNE_WUqdKA5U4-lj5M3Aw9S5fogk4Q on 10th September, 2016.
- Ana. (2015). Students Educational and Occupational Aspirations Predicted by Parents and Adolescents Characteristics. *European Journal of Social Sciences Education and Research*, 4, 207-214. Retrieved from http://www.academia.edu/download/38973812/6th_ICSS_2015_EJSER.pdf on 18th November, 2016.
- Andleeb, & Ansari, M. (2016). A comparative study of occupational aspiration and career maturity of senior secondary school students in relation to gender. *International Education and Research Journal*, 2, 79-81. Retrieved from <http://ierj.in/journal/index.php/ierj/article/download/381/359> on 18th December, 2016.
- Bose, S. (2012). A contextual analysis of gender disparity in education in India: The relative effects of son preference, women's status and community. *Sociological Perspectives*, 55, 67-91. doi :10.1525/sop.2012.55.1.67
- Census of India (2011). Retrieved from www.censusindia.gov.in on 14th December, 2016.
- Das, A. & Bhagabati, N. (2016). A Study on Occupational Aspiration of Higher Secondary Girls Students in Nagaon District. *International Journal of Advanced Research in Education & Technology*, 3, 56-58. Retrieved from <http://ijaret.com/wp-content/themes/felicity/issues/vol3issue2/archana.pdf> on 18th December, 2016.
- Duhan, K. (2014). Impact of Educational Programme on Gender Differential Opinion of Rural Mothers. *Journal of Education & Social Policy*, 1, 125-131. Retrieved from <http://www.google.co.in/url?q=http://ifsmrc.org/sites/default/files/journals/pdf/9.%2520AIJRM%25202308JJ14%2520Krishna%2520Duhan%2520%2520%2520Impact%2520of%2520Educational%2520Programme%2520on%2520G.pdf&sa=U&ved=0ahUKEwit8oGE3dnRAhVQySYKHAM9DF4QFggQMAA&usg=AFQjCNG52A9psOUrUkAuwokfnlnR4aKK6g> on 15th December, 2016.
- Kaur, P. (2012). Educational Aspirations of Adolescents in relation to their level of Intelligence. *International Multidisciplinary e-Journal*, 1, 37-43. Retrieved from http://www.google.co.in/url?q=http://shreeprakashan.com/Documents/20127287912201.7.parwinderjit%2520Kaur.pdf&sa=U&ved=0ahUKEwj8KJ1tfRAhWBSCYKHdmiBVoQFggLMAA&usg=AFQjCNG6kz0e9T8A9Ce_7qej97b6Hu0Jig on 10th September, 2016.
- Kaul, R. (2015). Gender Inequality: Challenges of educating the girl child. *Social Change*, 45, 224-233. doi:10.1177/0049085715574183
- Katiyar, S.P. (2016). Gender Disparity in Literacy in India. *Social Change*, 46, 46-49. doi: 10.1177/0049085715618558
- Khalid, U. (2008). *Gender Bias in Education: Evidence from Rural India*. (Published master's thesis). Retrieved from <http://www.google.co.in/url?q=http://www.docs.fce.unsw.edu.au/>



economics/Current/Honours/HonoursTheses2008/Usman_Khalid_Thesis_2008.pdf&sa=U&ved=0ahUKEwj-mtvYu9fRAhVESiYKHS1TAglQFggNMAE&usg=AFQjCNG9FjzrHY2x16sq1iUWeDayd-nPgg on 28th December, 2016.

Kushwaha, M. & Vandana. (2012). Social correlates of educational aspirations of undergraduate girls. *Shaikshik Parisamvad - An International Journal of Education*, 2, 16-26. Retrieved from <http://www.google.co.in/url?q=http://www.spijebhu.in/SPIJE-JULY-3.pdf&sa=U&ved=0ahUKEwiBxviY5dnRAhVM1oMKHecrCTEQFggUMAI&usg=AFQjCNGEhEKKXEMZG4U-O9Jz43UqaY2ZIA> on 28th December, 2016.

Kumar, J. & Sangeeta. (2013). Status of women education in India. *Educationia Confab Journal*, 2, 162-176. Retrieved from <http://www.google.co.in/url?q=http://www.confabjournals.com/confabjournals/images/6520138351219.pdf&sa=U&ved=0ahUKEwjivPOr3NfRAhWF7iYKHUYUpDaUQFggLMAA&usg=AFQjCNHEgMCXXVBo-Zlu88EIw7XkRf-owA> on 8th January, 2017.

Kundal, R. (2016). Gender gaps in Educational Attainment and Human Development: An Indian Scenario. *SIT Journal of Management*, 5, 63-67. Retrieved from http://www.ejsit.org/june_15/journal5.pdf on 10th September, 2016.

Ministry of Human Resource Development. (2014). *Educational Statistics at a Glance*. Retrieved from http://mhrd.gov.in/sites/upload_files/mhrd/files/statistics/EAG2014_0.pdf on 7th August, 2016

Pathak, S., & Gupta, A. (2013). Status of Women in India with Particular Reference to Gap in Male Female Literacy Rate in India. *International Journal of Environmental Engineering and Management*, 4, 549-552. Retrieved from https://www.google.co.in/url?q=http://www.ripublication.com/ijeem_spl/ijeemv4n6_04.pdf&sa=U&ved=0ahUKEwi_97zF9K_OAhXLvo8KHS4LByMQFggPMAA&usg=AFQjCNFPo76ekYg0vDoFm6Q6j2383cV2kg on 7th August, 2016.

United Nation Development Programme. Retrieved from <http://hdr.undp.org/en/content/gender-development-index-gdi> on 28th December, 2016.

United Nations Development Programme. (UNDP). (2015). *Human Development Report*. New York: UN Plaza. Retrieved from http://www.google.co.in/url?q=http://hdr.undp.org/sites/default/files/2015_human_development_report.pdf&sa=U&ved=0ahUKEwjbgoH459nRAhVh4YMKHZf0D4YQFggLMAA&usg=AFQjCNEBRnPvnvm9kgmFJz1ki43ATLXDIw on 28th December, 2016.

A Peep into Healthy School Environment

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Abstract

“Students fell sick after having mid-day meal in school; some children had severe food poisoning in Uttar Pradesh” (March 16, 2018). We often come across news items such as these. It is quite a shameful situation for the citizens of the country. Is it not the responsibility of the government and schools to ensure that nutritious, hygienic and good quality mid-day meals are served to children in schools? This paper explores the condition of School Environment in a sixteen-week long interaction with schools (primary and middle) and its students. Schools’ contribution towards students’ health and hygiene was closely examined. Under the ‘Swachh Bharat Campaign’, the focus is on the cleanliness of our surroundings. It was observed that students of government schools have low attendance rates as compared to other private schools and their attendance rate and health rate is low in comparison to private schools. It further investigated the issues or challenges faced by students due to schools’ unhealthy environment and unhygienic conditions, which lead to unhealthy living conditions. Hygiene issue acquired importance and it was found that parents were unaware about these issues. A profiling of a class I student was done to find out students’ living conditions and examine the factors that are responsible for their health. This profiling helped in understanding the lives of children in a holistic perspective. Lastly, in this action research study, class 1 students were sensitised towards cleanliness and hygiene and their awareness while teaching. Therefore, it was found that government schools were also responsible for students’ health along with their family.

Keywords: *Healthy School Environment, Government Schools, Students' Health and Hygiene, Profile of Students*

Introduction

Children generally spend six hours per day in schools where they gain knowledge, make friends, develop their personality and also learn to socialise. Schools act as a mini society. Students’ learning is not only limited to the four walls of the classroom, the whole school environment, physical and psychological, plays an important role in learning values such as discipline, honesty and cleanliness. Dresslar divided healthy school environment into two essential parts: “the physical environment of the child during her/ his school life” and “the laws of mental hygiene as per needs of the children.” The physical environment of school includes

cleanliness of playground, classrooms, toilets, equipments they use; adequate water supply in toilets and for drinking; proper meal; proper light; and regular health checkups. In India, the government has taken steps like mid-day meal scheme, separate toilets for girls and boys, water supply, infrastructure in a school building like library, furniture etc., for ensuring a healthy school environment. Are these necessities available for children in schools? Does school health impact students’ physical and mental health? These are questions to ponder!

As part of the B.El.Ed. (Bachelor of Elementary Education) Internship programme, final year pre-service teachers are placed in schools for a

duration of sixteen weeks. During internships, it was observed that students did not come to school regularly. One of the main reasons was students being unwell. We wanted to investigate why students were frequently falling ill?; which were the diseases or infections?; what is the role of school and teachers? Is the school responsible for their health or their living conditions? Finally, what steps can be taken in schools for creating awareness among students about cleanliness, hygiene, sanitation and balanced diet. Further, a detailed case study of a child was conducted to find out how the lifestyle of a child affects his/her health.

In this paper, aspects like food, water, sanitation, school location and building, cleanliness, and playground were explored and examined to gain an insight into their effect on student's health and hygiene. It is important to understand the term 'hygiene'. Hygiene is a condition or practice under which one can prevent his/her self from diseases to maintain health. It does not only mean keeping oneself clean, but also refers to keeping one's surroundings clean, thus preventing illness.

Context of the Research

The research was conducted in two schools. One is a North Delhi Municipal Corporation Co-educational Primary School and the other is Govt. Girls Middle School of Directorate of Education. Both schools are located in the North-West part of Delhi. Children in the primary school come from a near-by slum area. Houses don't have washrooms or water supply. They take water from a tanker and use portable toilets. Most of the families work in construction sites.

A Brief of Researches in the Area

The area of school health and hygiene is researched from the perspective of bringing importance to cleanliness in school for its classrooms, playgrounds, toilets and sewages. Certain aspects which are necessary for students' health such as access to amenities, utilisation,

availability of resources and the culture around their utilisation and distribution were researched. Gupta and Baru (2010) described 'Health' in terms of the prevention and cure of diseases, and in the case of children's health, it is restricted to screening for nutritional deficiencies and diseases that lead to the prescription of selective interventions such as de-worming, micro-nutrient supplementation nutrition programmes. The World Health Organization (WHO) report (2008) "Closing the Gap in a Generation" by the Commission on Social Determinants of Health described that social justice affects people's lives, their consequent chances of illness, and their risk of premature death. Inequities in health arise because of the circumstances in which people grow, live, work, and age. According to the report, "the poor health of the poor, the social gradient in health are caused by the unequal distribution of power, income, goods and services, globally and nationally". There were many recommendations in the commission's report. One of the most important points is to raise public awareness about the social determinants of health and the need for everyone in the country to participate in this if they want to remove the health gap across generations. Deshpandey (2006) advocated that socio-economic status of the families of children plays an important role in their development. It determines access to basic needs, their residential location, and the type of school they go to. "Over the last few decades sections of the upper-middle and middle classes have exited from public provisioning and opted to educate their children in the private sector" (2009). According to her, the major challenge nowadays in government schools is attendance and learning outcomes. She further concluded that the issue of lower attendance can be solved if the students live a healthy life and that can be possible if schools provide a healthy environment to them.

Healthy School Environment: Observations in the Primary School

Building

The Primary School had three buildings with two floors each. The building is constructed in a U shape with the central space for playground. The school was well painted. By the design of the building, classrooms were airy with large windows which provided adequate lighting. The enrolment of students was about eight hundred and fifty. The number of rooms were adequate according to the strength of students. Classrooms wall were properly white-washed. There were no leakages from the walls. The condition of the furniture was appropriate, however the quantity of desks was less than the required number. Lights and fans were in working condition in the entire school.

A single staff was appointed for the cleaning of toilets, corridors, staircases and playground, but the classrooms were cleaned by students only. No dustbins were placed in common areas. All dustbins were placed at one single place. Students themselves carried the dustbins of their classrooms to throw the trash after cleaning it.

Under the Mid-day Meal Scheme Food was distributed to students. Like in other schools in Delhi, the food was cooked outside the school building by a vendor. It was cooked almost an hour before it was served and by the time it was served, it was cold. As per the requirements, a teacher and the head-mistress always tasted the food before it was given to students. However, students often said that the food did not taste good. The meal was served by five females with their hands, without wearing hand gloves. Some students also helped those ladies in serving. Students brought empty boxes from their homes for taking the meal with them. At times, their own boxes were not clean. But there was no practice of washing the boxes before taking food in it. The practice of serving foods with hands was so common that the teacher or head-mistress never objected to it. Teachers in the school made sure that if students asked for second servings, then they should get it.

There was another aspect to the mid-day meal. About 10 to 20% of students did not take food. This numbers varied as per the dish served. Halwa was found to be the most unpopular, while chholey-puri was the most popular dish among students. They said “*khaane mei kidee nikalte hai*”, “*school ka khaana acha nahi hota*”, “*they add some color to the halwa*”, “*Taste of halwa is totally different and it tastes changes every day - kabhi kuch daalte kabhi kuch, bekar hota hai ek dum*”.

In contrast, in the middle school, the person serving food always wore hand-gloves and a cap. They used serving spoons for the mixing and distribution of the food.

During the entire period of internship, it was observed that mid-day meal was served regularly. Students never washed hands before having food. But in these schools, it was just the serving of food that mattered, not its quality.

Water supply

Water was always available for drinking to students. There was no water purifier. It was the municipal corporation supply of water. However, sometimes, there was no supply of water in the toilets. It became a problem for the students and their complaints were hardly addressed. It was found that guard filled the water tanks of toilets in the morning by switching on the motor. A teacher discussed the scarcity of water- “*kbhi tanki puri ni bharti hogi to toilet mei paani ni aata*”. At times, water is also not available in the teachers’ toilet. It was also observed that sometimes students did not wash their hands because they didn’t feel the need to do so. At times, the taps of toilets were left open by students and there was water logging, making that area muddy and the students faced problems in entering to toilets.

Students Toilets were found to be very unhygienic and they were not cleaned daily. Even teachers’ toilets were not maintained properly. In one toilet, the main door was broken and other one’s lock was not working. The back

area of the school, near the toilets, had a lot of garbage and there was only one swing near this area.

Playground

There was a lot of space in the school to build a playground, but it was not maintained. Unkempt grass created problems for students. No one cleaned the playground until it had to be used for some function. There was always a lot of garbage lying on the ground. There was no safety in the ground while playing. The playground had greenery, but some unnecessary bushes were there that needed to be maintained on a regular basis. In the time-table, every class had a slot for the sports period, however they were not taken to the ground for any physical activity.

Health Checkups and its Effect on Students, Teachers and Parents

Doctors visit school for checkup once in a year. During the last visit, the most common disease/deficiency found in students was ANAEMIA. Iron tablets were distributed among students. About half of student strength in classes IV and V were diagnosed with anaemia. Few students were also suspected to have worms, thus de-worming medicines were prescribed. However, there were no follow up with students and their parents neither by doctors nor by teachers.

Challenges Faced by Students due to School Environment

Students threw the garbage of the class in the big dustbin, but they were never asked to wash their hands after throwing that. They even ate food with unwashed hands and some students were not even aware of the importance of washing their hands before having food. During lunch time, students were injured but they did not inform their teachers about accidents and injuries while playing in ground because they were afraid of them. For the entire strength of 850 students, there were only one toilet for girls and one for boys, due to which big queues were

observed. Children of class I even spoiled their pants. There was no training for personal hygiene. Students were instructed to pick up garbage found anywhere in the school and throw it in dustbins, however they were not instructed to wash their hands afterwards. Mosquitoes were there during rainy season.

Challenges Faced by Teachers due to School Environment

On being asked, the teachers shared that they felt that the students' parents do not fulfil their responsibilities of raising their children properly. They also understood the fact that the children come from families where having a meal every day is a more important concern than what the child learns at school. In most of the cases, the parents themselves were not educated enough to assist their children in learning. Students used unwashed boxing for taking meals. Students prefer having junk food like noodles and chocolate over fruits. There seems to be a lack of awareness about the significance of consuming a healthy diet among students and their families. Teachers complained that a few students were untidy as they did not bath everyday and wore the same uniform without washing for an entire week. Children had long and dirty nails. They came to school without bathing and at times without freshening up. For a few students, their school bags were extremely dirty, with their books and copies in a bad state with missing or stained pages. In such a situation, it is even more important for school and teachers to raise awareness about healthy environment. A healthy school environment would be a role model to follow for children.

Profile of a Class I Child:

A class I child, aged 7 years, lived in a nuclear family with his parents and a younger sister, age 3 years. The mother had completed schooling till class X and the father till class XII. His father was a rag picker and his mother worked as a part-time maid in different houses of a nearby posh colony. He lived in a rented house with a

monthly rent of 600/- There were no electronic gadgets at home except a cooler, and there was no provision of a fan in their house. The child went for tuition every day to finish his school homework, with a monthly tuition fee of Rs 400/-. Vegetables generally cooked in his home were potato, onion, and ladyfinger. The child did wash his hands before having his meals. There was no water supply at their home. Water is fetched in buckets from the tanker or hand-pump in the area. Their house is also not cleaned daily. There were only 2 toilets for the entire slum of about 50 houses. The child never gets the chance to use those toilets in the slum, as there is a long queue waiting. In morning, he used the school's washroom. He did not bathe daily, generally only once in a week. He brushed his teeth sometimes. The child did not take mid-day meal because of the perception that there were stones in the food. He brought junk food like chips, fun-flips or *kurkure* to school for breakfast. He came to school daily and studied well and is good at classroom learning activities. The economic condition of the child is weak. He did not have proper availability of food and water for drinking. Even the access to toilets was not available at the required time. He did not use soap or toothpaste. The physical environment of the child is completely unhygienic. In their social environment, they witness fights between their parents and neighbors on the issues of water, rent or the electricity bill. There seems to be a lack of awareness among the parents about health and hygiene. At the same time, the school environment also treated children as a worker or as labor, wherein they had to clean their classrooms using mops, washing wall tiles at times, collecting trash and carrying big garbage dustbins to class. Some information about how to prevent yourself from mosquitoes' bites, or some posters or slogans on saving water were displayed in school, but these were hardly discussed. Headmistress was observed instructing students to throw garbage in the dustbin and not to carry toilet mugs to their

home. The Sports teacher was the only teacher who checked the students' nails and continuously asked them to cut it and clean them. During the entire period of the internship, the teachers were never observed instructing students about hygiene and its importance for leading a healthy life.

Initiatives Taken by Pre-service Teacher for Developing Awareness Among Students and its Outcomes

With class I children, the pre-service teacher (intern) regularly discussed the importance of cleanliness, personal hygiene, sanitation. Some simple practices which could be followed every day such as washing hands after using toilets and before having meals, putting water in toilets after using them, bringing washed boxes daily for meals, cutting nails and eating healthy food like fruits and vegetables rather than junk food was continuously emphasised on during teaching. The Intern discussed five steps of washing their hands. In the same class, the intern carried disposal plates and spoons and gave them to children who either forgot to bring boxes for meals or brought dirty boxes. Students' nails were observed daily, so that they develop the habit of keeping them clean. After three weeks of continuous insistence, it was observed that the students started washing their hands before eating, and by the end of six weeks, almost all the students were washing their hands. Students also started washing their tiffin boxes before taking any kind of meal. Students came to school wearing proper uniform. Some students brought their spoons for eating food like rajma chawal or dal chawal. It was observed that only a small initiative of talking regularly to students helped them in developing an awareness about cleanliness and its linkage to their health.

Comparative Analysis of Primary and Middle School

The two schools of internship – one primary school of North Delhi Municipal Corporation and the other middle school run by directorate of

Education were compared on some common challenges between the two schools: The table indicates the difference

Issue	Challenges	NDMC Co-Ed Primary School	Govt. Girls Middle School
Cleanliness	Classrooms	Unclean and cleaned by students themselves	Cleaned and cleaned by sweepers
	Playground	Unmaintained with long bushes	Maintained always
	Staircase	Cleaned	Cleaned always
	School building	Cleaned	Cleaned always
	Sweepers	1	More than 3
Toilets	Teachers	Sometimes clean	Cleaned always
	Students	Mostly unclean	Cleaned always
W a t e r supply	Drinking	Always available	Always available and fit for drinking
	Toilets	Sometimes available	Always available
M i d d a y meal	Quality	Not healthy	Healthy
	Quantity	Not appropriate	Appropriate
	Arrival	Sometimes on time	Always on time
	Server	Not wear gloves and cap while serving	Always wear cap and gloves while serving
	Feedback of students	Negative	Positive
	Teachers taste on check food	No, rarely	Yes, sometimes
	Children servings	Yes, sometimes	Yes, sometimes
S c h o o l Building	Condition	Good	Good
	Staircase safety	Safe	Safe
	Dustbin in common areas	No	No
Classrooms	Leakages	No	No
	Condition of furniture	Proper	Proper
	Dustbins	Yes	Yes
	Condition of fans and light	Working	Working
O t h e r Facilities	Availability of water and electricity	Yes	Yes
	Physical access for beneficiaries	Yes	Yes
	Distance to nearest bus stop	Walking distance	Walking distance
Awareness	Teachers	Yes	Yes
	Students	No	Yes
	Practices in school for students' health and hygiene	No	Yes. Checking students nails daily; their dress; shoes etc.
Issues faced by students	Cleaning	Children themselves clean their classrooms	Sweeper clean their classroom
	Carrying dustbins	Yes	No
	Lunchbox	Unclean sometimes	Always clean
Parents involvement	No	Yes	

A careful reading of this table showed that the students in middle school were more aware about their health and hygiene. They were also placed in schools that had better infrastructure facilities.

Results and Discussion

Primary School:

It was found out that the teachers in the primary school were indifferent towards students' health and hygiene. Two broad findings emerged- the first being that aspects that schools consider under health and hygiene were not properly followed by them. For instance, water was not available in toilets all the time, no soaps were available to wash their hands before and after eating, no access to playing equipment, unclean area where they spend most of the time that was classroom and playground, throwing garbage of their classroom dustbin into the big dustbin themselves, students cleaning their classroom using mops themselves. The second aspect was related to their food and health issues- the quality and quantity of food given to students was not appropriate. As per the guidelines, "students will be provided with healthy and nutritious food", however the situation is contrary. There are number of feasibility studies done in the area of mid-day meal, but no changes have been made in the system to take appropriate action so that the students can get a quality meal. Moreover, teachers seemed to ignore the importance of emphasising on healthy and hygienic conditions of living. The parents' economic position and the ignorance of the school both contribute in making the environment unhealthy for students. This was probably the major reason for absenteeism of students from school.

Middle School

The situation in the middle school was still better. The school has better infrastructure and facilities as compared to the primary school under study. It was found that teachers' in this

school had a positive attitude towards students' health and hygiene. Sweepers were cleaning the floor and classrooms daily. Toilets and playground were found to be clean. Mid-day meal provided to the students was healthy and served in an adequate amount. Servers wore caps and gloves while serving. Water was available for drinking. The teachers also drank water from school taps. Water was always available in toilets. Students just had to focus on their studies because the other factors cleanliness, health and hygiene were maintained by the school, which is good for students' mental and physical health. This was the reason that students were regular in this school and teachers were also found to take initiatives like checking student's nails regularly, their dress, shoes etc. which is necessary in schools for the benefit of their health. Hence, in the school where there was more focus on a health and hygiene provided Healthy School Environment, there was an increased regularity of students coming to school, which lead to better learning outcomes.

Some more simple steps can be taken such as conducting a session for students and teachers on the need and importance of a healthy school environment every once in a week. Similar sessions should be planned for parents as well. Water tanks which supply water should be cleaned on a regular basis, may be once in a month. Health checkup sessions should be done at least twice a year and investigations with a proper course of action should be discussed with their parents. Teacher need to play an active role to ensure that the students follow different things which are discussed in sessions. An adequate number of staff members need to be employed for cleaning and to fulfil other roles like that of maid. Incidentally, the two particular schools under study had the required number of teachers. However, it was observed that a lot of schools did not have the required number of teachers. An availability of resources as well as the

maintenance of those resources is required to provide a Healthy School Environment.

Conclusion

It was found that schools and their authorities, including teachers, mainly focused on facilities like halls, classrooms, common areas (playground), furniture, lightning, water and ventilation. These are basic requirements of a healthy school environment. However, other important aspects such as the health and hygiene of students were left to chance development. In the annual health check-up of students, it was found that anaemia was the main deficiency disease found. However, the school authorities did not acknowledge any sort of responsibility. The reason behind students being unhealthy was majorly because of their lifestyle – their home's unhygienic conditions and the lack of resources needed for living a healthy life. However, it was observed that the schools did not take many initiatives to improve their student's health and hygiene. They just added more to the problem. The mere placement of posters at different places did not result in creating any awareness about health among students.

In the pilot study, a few steps were taken to improve student's health such as discussing the importance of personal hygiene and its linkage to health, focusing on proper hand-washing

before and after eating, nail cutting, eating at least one fruit a day, clean tiffin boxes. This continuous focus on hygiene helped in inculcating healthy habits among the students.

The detailed observations of these schools led to the conclusion that students' health and hygiene was affected by their lifestyle. Due to their parents' lack of awareness, the scarcity of resources, poor economic condition of families, and their physical environment, students were living in an unhealthy environment. Their lives revolved around managing everyday life necessities. They fought on small issues in their societies and the illness of any family member caused an added suffering in their daily lives. These challenges affected not only their physical, but also their mental health. All these factors resulted in an irregularity in attending school, thus adding to the hindrance in learning at school. It seems like schools have become institutions where students waste their time and compromise their health. It is said that a healthy mind lives in a healthy body, and if students are suffering from health-related issues and live in unhygienic areas, then their learning will also get affected. Therefore, there is a need to take an initiative to raise an awareness regarding health and good hygiene in order to improve the quality of life of students as well as the society.

References:

(<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3893609/>)

(<https://www.firstpost.com/tag/mid-day-meal> retrieved on April 28, 2018)

Dasgupta, R., Baru, R. V., Deshpande, M., and Mohanty, A. (2009). *Location and Deprivation: Towards an Understanding of the Relationship between Area Effects and School Health*, USRN (University School Resource Network) Working Paper Series 2, 1(2)

Despande, M., Baru, R.V., and Dasgupta, R. *Aao Kadam Uthayein. School Health Project*, School of Social Sciences, Jawaharlal Nehru University.

Despande, M., Baru, R.V., and Nundy M. (2014) Re-imagining School Health in Education and Health Programmes: A Study across Selected Municipal Schools in Delhi. *Contemporary Education Dialogue*. Sage Publication

Dresslar, Fletcher. (1913). *School hygiene*. New York: The MacMillian Company.

Fullan, M. G. (1993). Why Teachers must Become Change Agents. *Educational Leadership*, 50, 12-12.

Marmot, M., Friel, S., Bell, R., Houweling, T.A., Taylor, S., & Commission on social determinants of health. (2008). Closing the Gap in a Generation: Healthy Equity through Action on Social Determinants of Health. *The lancet*, 372(9650), 1661-1669.

Mehrotra, Nishi et al (2003): 'Against all Odds: A study of children in poverty situations' in Vimala Ramachandran (ed). *Getting children back to school: case studies in primary education*. Sage.

PROBE Report (1999). *Public Report in Basic Education in India*. Delhi: Oxford University Press

Ramachandran, V., Jandhyala K and Saijhee, A., (2003). Through the Life Cycle of Children: Factors that Facilitate / Impede Successful Primary School Completion. *Economic and political weekly*, 4994-5002.

Sharma, N. and Chaudhary, N. (2003) From home to School: Circumstances in the lives of Children from Poor Families, in Vimala Ramachandran (ed) *Getting children back to school: case studies in primary education*. Sage.

Shenoy, R. P., and Sequeria, P.S. (2010). Effectiveness of a School Dental Education Program in Improving Oral Health Knowledge and Oral Hygiene Practices and Status of 12-to 13-year-Old School Children. *Indian journal of Dental Research*, 21 (2), 253.

St Leger, L., & young, I.M. (2009). Creating the Document 'Promoting Health in Schools: From Evidence to Action'. *Global Health Promotion*, 16(4), 69-71.

Notes

1. At present, the Bachelor of Elementary Education (B.El.Ed) programme is offered in eight women colleges of University of Delhi, Delhi. Aditi Mahavidyalaya is one of the eight colleges.
2. In the fourth and final year of B.El.Ed programme, students are placed in schools to complete a sixteen week long School Internship. During the internship period, students (Interns) teach and interact with a group of students. Interns teach for twelve weeks in a primary school and four weeks in a middle school.
3. The action research observations discussed in this paper were drawn from the school internship experience of fourth year B.El.Ed student - Renu Singla.

Current Scenario and Future Draft for Healthy Indian School Canteen

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Abstract:

A healthy life is possible with the inclusion of healthy food in the diet. In today’s world, healthy food has replaced with unhealthy junk food in the diet of growing young children, and due to that, many health problems are prominent among the children. This can lead to several physical as well as mental health issues, created at a young age, or sometimes faced in later age. The school canteen is an excellent platform for work in this sector. The formulation and implementation of a good and healthy canteen policy is the main requirement for this. Numerous Indian schools do not have healthy canteen policies, and therefore, these schools need to formulate effective school canteen policies to help improve the health of children. The absence of a canteen policy provides an opportunity for poor quality food services to go unchecked.

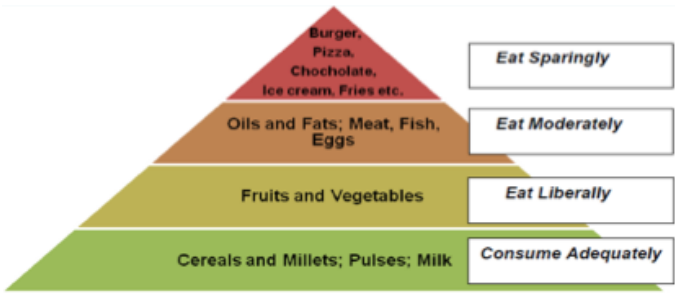
Keywords: Canteen; Healthy diet; HFSS; FSSAI

Introduction:

The balance and nutritious diet have a major contribution in healthy life. As per "Dietary Guidelines for Indians, 2011", given by the National Institute of Nutrition (NIN), a balanced diet is one that provides all nutrients in required amounts and proper proportions. It should provide around 50-60% of total calories from carbohydrates, preferably from complex carbohydrates, about 10-15% from proteins and 20-30% from both visible and invisible fat. In addition, it should provide other non-nutrients such as dietary fiber, antioxidants, which provide positive health benefits. The guidelines depict the importance of different kinds of foods through a "Food Pyramid" (Figure 1). A balanced diet is recommended through a blend of four basic food groups such as cereals, millets and pulses; vegetables and fruits; oils, fats and nuts; milk and animal foods. Notably, food items such as burgers, pizzas, fries, chocolates, ice creams, jams etc. are not considered to be the right choice to meet nutrient needs, and

therefore, they must be eaten sparingly (Manual NIN, 2011).

Figure 1: Food Pyramid by NIN (Source:



Dietary Guidelines for Indians, NIN; Reproduction of the figure mentioned)

Internationally, obesity has been identified as a major public health crisis (WHO, 2013). Recent epidemiological evidence from the Indian subcontinent confirms the widespread occurrence of obesity among Indian adolescents (Ranjani et al. 2016), particularly in urban areas (Subashini et al. 2015). A boost in obesity from 16.3% (2001-05) to 19.3% (after 2010) in Indian children was found in a study of Ranjani et al.

(2016). The health problems associated with obesity can be insulin resistance (Bhardwaj et al. 2008), elevated blood pressure (Sorof & Daniels, 2002); increased total cholesterol, triglycerides, and low-density lipoprotein (LDL) cholesterol; suppressed high-density lipoprotein (HDL) cholesterol (Lloyd et al. 2012) and psychosocial problem such as depression (Daniels, 2006). Therefore, great attention is immediately required to improve the health of adolescents. One contribution to the enhancement of adolescent health is through the provision of healthy food in school canteens. Environmental influences including the availability and accessibility of foods in the school canteen can play a crucial role in determining adolescent food choices (Story et al. 2002). Indian private school children either consume home-prepared food during lunch breaks or purchase products from the school canteens (Rathi et al. 2017), a custom commonly practiced in Australia and New Zealand (Worsley, 2008). However, Indian public schools (Ali & Akbar, 2015) share a close resemblance with European schools (Tikkanen, 2009) as these schools provide free cooked meals to their students. In contradiction, the Indian Government does not impose any mandatory rules and regulations on private or public schools regarding nutrition and health promotion (Kaur et al. 2012). Globally, schools have been identified as powerful platforms for supporting physical and psychological well-being as well as social and academic development in young people (Rathi et al. 2016). However, Indian schools have been criticised for inculcating unhealthy eating habits among pupils (Rathi et al. 2017; Mehan et al. 2012). Various studies have reported that most of the Indian school canteens supply a range of energy-dense, nutrient-poor foods including potato chips, confectionery and sugar-sweetened beverages (Lawlis et al. 2016; Vepsalainen et al. 2015). The easy and increased availability of these unhealthy food options tends to promote poor eating habits among adolescents, contributing to

the burden of adolescent obesity and adult obesity (Larson & Story, 2010). In contrast, the availability of nutritionally adequate foods like fruits and vegetables has been limited to relatively very few school canteens in the developing as well as developed market economies (Porto et al. 2015). Healthier food choices available in the school canteens tend to be more expensive than high fat and high sugar food choices (Woods et al. 2014). School canteens are often criticised for being profit-driven (Drummond & Sheppard, 2011). This profit-motivated nature is evident in schools fund-raising efforts, involving the intense marketing of high fat and sugar based foods (Rani & Sathiyasekaran, 2013). Fried foods such as french fries and samosas (fried pastry with savory fillings, such as spiced potatoes) dominate in Indian school canteen menus (Mehan et al. 2012; Rani & Sathiyasekaran, 2013). Most of these fried foods are often prepared using trans fats and saturated fats (Kaushik et al. 2011), raising questions regarding the healthiness of these foods. These unhealthy practices of the Indian school canteens are in contradiction to healthy eating habits.

Since adolescent dietary patterns are significant determinants of health and nutritional status in adulthood (Croll et al. 2001), it is important to develop and implement strategies that support healthy eating from an early age. As numerous Indian schools do not have healthy canteen policies (Kaur et al. 2012), therefore Indian schools need to put into practice effective school canteen policies to encourage young people to eat healthily. A school canteen policy is a written document that identifies rules and regulations for school canteens to support and sustain healthy changes made to the school food environment (WHO, 2014a). The absence of a canteen policy provides an opportunity for poor quality food services to go unchecked. World Health Organization's popular school-based program, the 'Health Promoting School' program (HPS), is not widely implemented in

India (Kaur et al. 2012). This highlights the importance of designing and implementing healthy school food policies for Indian schools to support healthy eating among students. Healthy school food policies should be an integral part of the school food environment (Hawkes, 2015). The establishment of healthy school food environment can result in multiple benefits, including improved physical and mental health and academic achievement (Langford et al. 2014). The increased availability of nutrient deficient foods, limited availability of healthy foods, low standards of food safety, quality and sanitation, and lack of healthy eating policies emerged as key findings during this qualitative exploration (Rathi et al. 2017a). The Indian government has drafted the guideline for making available wholesome and nutritious food to children in schools (FSSAI, 2018). The foods that are high in fat, salt and sugar are commonly termed as HFSS food. The foods high in salt, sugar, fat (saturated fatty acid and trans fat) and caffeine cause various health problems for the human.

As per WHO document titled “Marketing of Foods High in Fat, Salt and Sugar to Children Update 2012-2013”, foods that are high in fat, salt and sugar are commonly termed as HFSS (FSSAI, 2018). The common HFSS standardised foods are fried chips, sugar-sweetened carbonated beverages, sugar-sweetened non-carbonated beverages, ready-to-eat noodles, pizzas, burgers, potato fries and confectionery items. These identified foods are based on an evaluation done out of similar foods available in India. They are considered unhealthy due to an imbalance in nutrients, i.e., high in fat, sugar, salt and/or low in proteins, fibers and nuts. Besides the above-mentioned food items, another food category is of non-standardised foods like deep fried foods such as samosa, chhola bhatura, etc.

Sugar: Sugar provides only calories with no additional beneficial effect and there is no secure level of its ingestion. Various studies have

reported that high sugar causes obesity, diabetes and metabolic syndrome (Malik et al. 2010).

Salt: Salt is added for preservation and enhancing the taste of food. High salt content in the diet can result in high blood pressure and other associated cardiovascular diseases (Misra & Khurana, 2007). Different findings suggest that high salt intake increases the mass of left ventricle, stiffens and narrows arteries, including coronary and renal arteries. It increases the probability of strokes, the severity of cardiac failure and a tendency for platelets to aggregate (Wardener & MacGregor, 2002). As per WHO, cutting down on the dietary salt intake to a recommended 5 g per day has a major impact on reducing blood pressure and cardiovascular diseases.

Fat:

Saturated Fatty Acid (SFA): SFAs are widely used in packaged foods including cookies, crackers, and snack chips. When consumed in excess of the recommended amount (limit less than 10% of total calorie intake), SFAs can clog arteries and increase the risk of heart attacks and strokes.

Trans Fatty Acid (TFA): TFAs are formed during the process of hydrogenation of vegetable oils and these have an adverse impact on blood lipid levels as they reduce the amount of good cholesterol (HDL) and increase bad cholesterol (LDL). Their consumption increases insulin resistance and promotes obesity. WHO recommends less than 1% of calories from TFAs.

Caffeine: The caffeine used in carbonated beverages and energy drinks is an addictive stimulant, which, if consumed in excess, can lead to impaired muscle and nerve functions, dehydration and a host of other disorders (Seifert et al. 2011). Consumption of caffeine, particularly among school children, is a matter of concern and needs to be strictly regulated in compliance with the Food Safety and Standards Act, 2006 and Regulations made thereunder.

HFSS Foods and burden of Non-Communicable Diseases (NCDs):

Unhealthy diet leads to metabolic changes and conditions such as overweight, high blood pressure, raised blood glucose and cholesterol, which are among the leading causes of NCD deaths in India (WHO, 2011). Unhealthy diets, especially the excessive consumption of calories, salt, saturated fat and sugar cause at least 40% of all deaths from NCDs, and approximately one quarter of all deaths globally. In India, as of 2008, about 53% of all deaths were due to NCDs. The disease burden of NCDs is expected to reach 57% by 2020 as compared to 29% in 1990 (WHO, 2010). According to WHO, an unhealthy diet is associated with four major NCDs, which are described below:

Childhood obesity

Childhood obesity is one of the most serious public health challenges. As per WHO, about 44% of the diabetes burden and 23% of the CVD burden is attributable to overweight and obesity. Overweight children are more likely than non-overweight children to develop insulin resistance, hyperinsulinemia, diabetes and cardiovascular diseases at a younger age, which in turn are associated with a higher chance of premature death and disability (Biro & Wien, 2010). Various studies done among Indian school children show that the prevalence of overweight/obesity is high and on the rise.

Hypertension

Hypertension is strongly associated with high Body Mass Index (BMI) and salt intake. Several studies suggest that overweight can cause the occurrence of hypertension (Sunder et al. 2013). As per WHO, the amount of dietary salt consumed is an important determinant of blood pressure levels and overall cardiovascular risk. World Heart Federation says that a universal reduction in the dietary intake of about 3 gm. of salt would lead to a 50% reduction in

the number of people needing treatment for hypertension.

Diabetes and pediatric metabolic syndrome

Type 2 Diabetes, which is very common in adults, is now increasingly being reported in children. The leading risk factor for kids is being overweight, often connected with an unhealthy diet and lack of physical activity. According to the previous study on post-pubertal Indian children, 67% males with high BMI were found to have insulin resistance while overall prevalence was about 22% in males and 36% in females (Misra et al. 2004). As per the Diabetes Atlas 2006, published by the International Diabetes Federation, the number of people with diabetes in India is around 40.9 million and it is expected to rise to 69.9 million by 2025 unless urgent preventive steps are taken (IDF, 2017).

Coronary Heart Disease (CHD)

CHD affects Indians with greater frequency and at a younger age than counterparts (Sunder et al. 2013).

HFSS food replacing a balanced diet is a key issue

As per NIN dietary guidelines, "the shift from traditional to 'modern' foods, changing cooking practices, increased intake intensive promotion of HFSS foods and beverages have affected people's perception of foods as well as their dietary behavior. Irrational preference for energy-dense foods and those with high sugar and salt content pose a serious health risk to the people, especially children. The increasing number of overweight and obese people in the community and the resulting burden of chronic non-communicable diseases necessitate systematic nutrition educational interventions on a massive scale."

HFSS food consumption in India

Consumption of 'HFSS Food' is sharply increasing both in rural and urban areas because of easy; good taste, low cost, aggressive marketing, and advertisements make them

popular with children. A study on the eating habits of HFSS Food by the school children in India found that 60-70% of children in different age groups consume chips at least 2-3 times a week (FSSAI, 2018). In a different study, it was found that the daily intake of energy is 110%

should be eaten sparingly can be the Yellow category, and the most common HFSS Foods can come under the Red category. It is recommended that at least 80% of the food available in schools should be of Green category. The policy should be applicable to all types of schools such as

Colour Code	Availability	Examples
Green	Always on the menu (at least 80% of available food items)	Vegetables and legumes, fruits, grain (cereal/pulses) foods; preferably wholegrain and/or high in fibre, lean meat, egg, fish, low fat milk, curd, paneer etc.
Yellow	Select carefully Approach should be greening, small portion size and reduced frequency	Baked vegetable based snacks, ice creams, milk-based ices and dairy desserts etc
Red	Restrict / Limit Availability in Schools	HFSS Foods as per Table 2

higher than the Recommended Daily Allowance (RDA) and the fat intake was almost double of the RDA. The most common (60.4%) effect was due to the consumption of foods such as potato chips, chocolate and carbonated drinks (Goel et al. 2013).

Develop a Canteen Policy to provide Nutritious, Wholesome and Healthy Food in Schools: (FSSAI Draft, 2018)

Canteens in schools should be used to motivate children to consume healthy and hygienic food and they should not be treated as commercial outlets. They carry a social responsibility towards inculcating healthy eating behaviors. Canteen policies based on nutrition criteria have been developed in many other countries. A suitable canteen policy that enables nutritious, wholesome and healthy foods to children should be developed, and as per the draft of FSSAI, it should be based on the below mentioned criteria:

•The school canteen policy should consider, for the sake of easy understanding, introducing the concept of colour coding (Table 1) to categorise the foods, for instance, foods that should be eaten most can be the Green category, foods that

primary, secondary, daycare, boarding etc. Depending upon the place and region, the policy should include foods that are to be promoted as well as discouraged for consumption by children. The policy should also take into consideration non-standardised foods that are sold in canteens and may extend to foods that are brought by children from home. Regarding foods that are to be discouraged, suitable measures such as decreasing the frequency and portion size can be suggested. With a major outcome, a balanced diet menu should be available in the schools.

Table:1 Colour coding (Source FSSAI draft, 2018)

- A "School Health Team" or similar unit could be set up in each school comprising teachers, parents, students and school canteen operators, who will coordinate, implement and monitor the canteen policy to make available quality and nutritious food to students in schools. This Team will also monitor the checklist given in this Guideline.

- A well-structured curriculum on a balanced diet and its health impacts should be introduced. The curriculum needs to take into account the level of students and detail out as the children migrate from one class to another.
- Schools should also promote nutrition education and awareness among children through various tools such as posters. If required, a provision for funds from the Department of School Education and Literacy should be made.

Regulate Promotion of 'HFSS Food' among School Children

There is a substantial increase in advertising of foods high in fat, sugar, and salt, across the world. Children are especially vulnerable to advertising because they cannot fully understand the disguised persuasive techniques of the advertisements and judge critically. The impact is exponential, as proved by several studies. The objective is to regulate the exposure and power of advertisements and promotional activities that target children.

Scientific Criteria followed to explain the identification of HFSS Foods:

A “cut-off” criterion based on RDA of nutrients by NIN, India (NIN, 2011)

The criterion is based on RDA of nutrients provided by NIN, India. Most of these are in line with those recommended by WHO. NIN guidelines have adapted to suit the Indian population.

Methodology for setting "cut-off" limit: RDA of calories and individual nutrients (refer 1 below) is apportioned across meals and snacks throughout the day (refer 2 below). It is compared with an actual amount of calories and respective nutrients that are present in foods. Foods

with higher than the set 'cut-off' limit of one or more parameters are considered unhealthy. Breakfast and/or mid-morning snack is considered for children in schools.

1. RDA of nutrients considered for children (based on 2100 Kcal for 10-12 years)

Salt/sodium: Total RDA for salt is 5 g /day, sodium 2 g/day as per NIN dietary guidelines.

Total fats: Total fat intake should not be >30% E per day (WHO recommendation adopted by NIN)

Trans fatty acids (TFAs): Total RDA is <1% E per day (WHO recommendation adopted by NIN)

Added sugar: Total RDA 30 g sugar /day as per NIN dietary guidelines

Saturated fatty acid (SFAs): Total RDA is up to 8% E (WHO recommendation adopted by NIN)

2. Meal break-up considered (% total calories)

Breakfast 25%

Mid-morning snack 10%

Lunch 25%

Evening snack 10%

Dinner 25%

Bedtime 5%

** Calculation illustration:*

Kcal: 10% of 2100=210 Kcal; 25% of 2100=525 Kcal

Total fat: 30% E of 210 for snack = 63 Kcal and 63/9 (Kcal/gm of fat) = 7 g; similarly its 17.5 g for meal

SFAs: 8% E of 210 snack = 16.8 Kcal and 16.8/9 (Kcal/gm of fat) = 1.86; similarly its 4.65 g for meal

TFAs: 1% E of 210 snack =21 Kcal and 21/9 (Kcal/gm of fat) = 0.23 g; similarly its 0.57 g for meal

Sugar: 10% of 30 g (RDA) for a snack = 3g; similarly its 6.25 g for meal

Salt/Sodium: 10% of 5 g of salt (RDA) and 2 g of sodium (RDA) for a snack = 0.5 g of salt and

0.2 g of sodium; similarly its 1.25 g of salt and 0.5 g of sodium per meal Based on the cut-off values, various snack foods available in India are evaluated.

Conclusion:

This review is not only significant for India, but also for other developing countries in their attempts to combat over-nutrition as it can

inform the development of healthy school canteen policies, which can facilitate the promotion of healthy eating among adolescents. Steps should be initiated to develop a nationwide programme for the identification of further foods based on the above criterion and inform schools accordingly. This would lead to a framework to categorise such foods and propose criterion based on nutrition and wholesomeness.

References:

- Bhardwaj, S., Misra, A., Khurana, L., Gulati, S., Shah, P., & Vikram, N. K. (2008). Childhood obesity in Asian Indians: a burgeoning cause of insulin resistance, diabetes and sub-clinical inflammation. *Asia Pacific Journal of Clinical Nutrition*, 17 (1), 172-175.
- Biro, F. M., & Wien, M. (2010). Childhood obesity and adult morbidities. *The American Journal of Clinical Nutrition*, 91(5), 1499S-1505S.
- Croll, J.K., Neumark-Sztainer, D., & Story, M. (2001). Healthy eating: What does it mean to adolescents? *Journal of Nutrition Education*, 33, 193–198.
- Daniels, S. R. (2006). The consequences of childhood overweight and obesity. *Future of Children*, 16 (1), 47-67.
- De Wardener, H. E., & MacGregor, G. A. (2002). Harmful effects of dietary salt in addition to hypertension. *Journal of Human Hypertension*, 16(4), 213-223.
- Dietary guidelines for Indians, A manual, NIN, 2011
- Drummond, C., & Sheppard, L. (2011). Examining primary and secondary school canteens and their place within the school system: A South Australian study. *Health Education Research*, 26 (4) 739-749.
- Global status report on non-communicable diseases 2010. World Health Organization;
- Goel, S., Kaur, T., & Gupta, M. (2013). Increasing proclivity for junk food among overweight adolescent girls in district Kurukshetra, India. *International Research Journal of Biological Sciences*, 2(3), 80-84.
- Hawkes, C., Smith, T. G., Jewell, J., Wardle, J., Hammond, R. A., Friel, S., Thow, A. M., & Kain, J. (2015). Smart food policies for obesity prevention. *Lancet*, 385 (9985), 2410-2421.
- Hawkes, C., Smith, T.G., Jewell, J., Wardle, J., Hammond, R.A., Friel, S., Thow, A.M., & Kain, J. (2015). Smart food policies for obesity prevention. *Lancet*, 385, 2410–2421.
- http://whqlibdoc.who.int/publications/2011/9789240686458_eng.pdf
- https://fssai.gov.in/dam/jcr:b986ccf3.../Order_Draft_Guidelines_School_Children.pdf
- <http://www.idf.org/diabetesatlas>
- <http://www.ninindia.org/>
- <http://www.world-heart-federation.org>

<http://www.who.int/>

<http://medind.nic.in/icb/t10/i9/icbt10i9p1041.pdf> 23 FSSAI 2018

- Kaur, R, Taneja, D & Mishra, P 2012, 'Cardiovascular health promotion in schools of Delhi, India: A baseline evaluation of environment and policies', *Annals of Tropical Medicine and Public Health*, vol. 5, no. 2, pp. 114-8.
- Kaur, R., Taneja, D., & Mishra, P. (2012). Cardiovascular health promotion in schools of Delhi, India: A baseline evaluation of environment and policies. *Ann. Tropical Medicine. Public Health*, 5, 114–118.
- Kaushik, J. S., Narang, M., & Parakh, A. (2011). Fast food consumption in children. *Indian Pediatrics*, 48 (2) 97-101.
- Langford, R., Bonell, C. P., Jones, H. E., Poulou, T., Murphy, S. M., Waters, E., Komro, K. A., Gibbs, L. F., Magnus, D., & Campbell, R. (2014). 'The WHO Health Promoting School framework for improving the health and well-being of students and their academic achievement', *Cochrane Database of Systematic Reviews*, doi 10.1002/14651858.CD008958.pub2.
- Larson, N., & Story, M. (2010). 'Are 'competitive foods' sold at school making our children fat?', *Health Affairs*, 29 (3), 430-435.
- Lawlis, T., Knox, M., & Jamieson, M. (2016). School canteens: A systematic review of the policy, perceptions and use from an Australian perspective. *Nutrition and Dietetics*, 73 (4), 389-398.
- Lloyd, L., Langley-Evans, S., & McMullen, S. (2012). Childhood obesity and risk of the adult metabolic syndrome: a systematic review. *International Journal of Obesity*, 36 (1), 1-11.
- Malik, V. S., Popkin, B. M., Bray, G. A., Després, J. P., Willett, W. C., & Hu, F. B. (2010). Sugar sweetened beverages and risk of metabolic syndrome and type 2 diabetes: a meta-analysis. *Diabetes care*.
- Mehan, M., Munshi, A., Surabhi, S., Bhatt, T., & Kantharia, N. (2012). Study of school environment and prevalence of obesity & its predictors among adolescent (10-13 years) belonging to a private school in an urban Indian city. *National Journal of Community Medicine*, 3 (3), 400-407.
- Misra, A., Vikram, N. K., Arya, S., Pandey, R. M., Dhingra, V., Chatterjee, A., & Talwar, K. K. (2004). High prevalence of insulin resistance in postpubertal Asian Indian children is associated with adverse truncal body fat patterning, abdominal adiposity and excess body fat. *International journal of obesity*, 28(10), 1217.
- Misra, A., & Khurana, L. (2007). Salt intake and hypertension: walking the tight rope. *Journal-Association of Physicians of India*, 55(N), 401.
- Porto, E. B. S., Schmitz, B. A. S., Recine, E., & Rodrigues, M. (2015). School canteens in the Federal District, Brazil and the promotion of healthy eating. *Revista de Nutricao*, 28 (1), 29-41.
- Rani, M. A., & Sathiyasekaran, B. W., (2013). Behavioural determinants for obesity: A crosssectional study among urban adolescents in India. *Journal of Preventive Medicine and Public Health*, 46 (4), 192-200.
- Ranjani, H., Mehreen, T., Pradeepa, R., Anjana, R. M., Garg, R., Anand, K., & Mohan, V. (2016). Epidemiology of childhood overweight & obesity in India: A systematic review. *Indian Journal of Medical Research*, 143 (2), 160-174.

- Rathi, N., Riddell, L., & Worsley, A. (2017). Food environment and policies in private schools in Kolkata, India. *Health Promotion International*, 32 (2). 340-350.
- Rathi, N., Riddell, L., Worsley, A. (2016). What influences urban Indian secondary school students' food consumption? *Aqualitative Study Appetite*, 105, 790–797.
- Seifert, S. M., Schaechter, J. L., Hershorin, E. R., & Lipshultz, S. E. (2011). Health effects of energy drinks on children, adolescents, and young adults. *Pediatrics*, peds-2009.
- Sorof, J., & Daniels, S. (2002). Obesity hypertension in children a problem of epidemic proportions. *Hypertension*, 40 (4), 441-447.
- Story, M., Neumark-Sztainer, D., & French, S. (2002). Individual and environmental influences on adolescent eating behaviors. *Journal of the American Dietetic Association*, 102 (3), 40-51.
- Subashini, K., Sunmathi, D., & Nalinakumari, S. (2015). Prevalence of overweight and obesity among private and government school children. *International Journal of Advanced Engineering and Science*, 4 (2), 48-66.
- Sundar, J. S., Adaikalam, J. M. S., Parameswari, S., Valarmarathi, S., Kalpana, S., & Shantharam, D. (2013). Prevalence and determinants of hypertension among urban school children in the age group of 13-17 years in, Chennai, Tamilnadu. *Epidemiol*, 3(130), 2161-1165.
- Vepsalainen, H., Mikkila, V., Erkkola, M., Broyles, S. T., Chaput, J. P., Hu, G., Kuriyan, R., Kurpad, A., Lambert, E., & Maher, C. (2015). Association between home and school food environments and dietary patterns among 9–11-year-old children in 12 countries. *International Journal of Obesity Supplements*, 5, S66-S73.
- Woods, J., Bressan, A., Langelaan, C., Mallon, A., & Palermo, C. (2014). 'Australian school canteens: menu guideline adherence or avoidance? *Health Promotion Journal of Australia*, 25 (2), 110-115.
- World Health Organization-NCD Country Profiles, (2011) http://www.who.int/nmh/countries/ind_en.pdf

Stress and Stress Management

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Abstract

Stress has become a part and parcel of everyone's life. It has pervaded our life style and there is no respite from it. In fact, it is accumulating with every breath that we take. It has become life-threatening and if steps are not taken to remove it there is a dark abyss in front of us.

There are various kinds of stress which affect our life. We need to analyse the causes of stress to remove it from our life because if the symptoms are not known treatment cannot be given. It is very easy to go to a doctor for a medicine, but if the cause is unknown, curing stress is impermeable.

We can try simple life skills to de-stress ourselves and look at life with a different perspective. But for this, we need to accept that we are stressed and take life in our stride, without buckling down under the pressure.

Keywords: *Stress, Types of Stress, Stress Management, Life Style Modification, Meditation*

Introduction

Today, stress is as ubiquitous as changing shirts. It's all pervading. Whether it be an adult or a school-going kid, the signs, symptoms and consequences, are visibly perceptible everywhere. Before we delve deeper into stress, we need to know what stress is.

Stress is your body's way of responding to any kind of demand or threat. When you sense danger—whether it's real or imagined—the body's defenses kick into high gear in a rapid, automatic process known as the "fight-or-flight" reaction or the "stress response."

The stress response is the body's way of protecting you. When working properly, it helps you stay focused, energetic, and alert. In emergency situations, stress can save your life—giving you extra strength to defend yourself, for example, or spurring you to slam on the brakes to avoid an accident.

Stress can also help you rise to meet challenges. It's what keeps you on your toes during a presentation at work, sharpens your

concentration when you're attempting the game-winning free throw, or drives you to study for an exam when you'd rather be watching TV. But beyond a certain point, stress stops being helpful and starts causing major damage to your health, your mood, your productivity, your relationships, and your quality of life.(1)

Kinds of Stress

There are various kinds of stress but the three basic ones are Physical, Mental and Psychological.

- **Physical stress** can be removed by taking rest, taking proper nutritious food and adopting a lifestyle wherein a person gets eight to nine hours of sleep.
- **Mental stress** is usually caused because of overwork. For tackling this stress, one has to become organised, remove clutter and reduce the mental work by taking time for relaxation and hobbies and making little changes in day to day routine.

- **Psychological stress** is the gift of 21st century. It has to be dealt with a multi-pronged approach. First we need to delve into the psyche. Is it pain, grief, trauma, failures, disputes between mother and father, death of a near and dear one or heart break? Once we are able to pin point the cause, the remedy can be easily found.

The first step in relieving Psychological stress requires the acceptance. The person concerned has to accept and acknowledge that there is a problem. The first step is always the most difficult. People the world over do not accept there is a problem.

Causes of Stress

There are various causes of stress. Let's analyse them one by one.

Procrastination: The first and foremost cause of stress is procrastination. We keep on postponing things in the hope that tomorrow will be longer, but that doesn't happen in reality. We keep on thinking, wondering, reflecting, planning how the task is to be accomplished but never get going. This train of thought keeps on telling us to begin, however the lack of will doesn't allow the start. The result is stress as the pending tasks keep on accumulating.

Suffocated Emotions: The biggest tragedy of modern times is suffocated emotions. In the era of internet and social media, we hardly have true relationships. All those rosy pictures hide the real pain. Do we today have those listening friends? The non-judgemental ones who would like to hear about your life and remain loyal? Of late, the conversations have become short, shallow, rare and artificial. Neither does one want to hear nor does one want to speak. The adults do not open up for different reasons. The idea of face-to-face talking with friends is a proverbial mirage. The hand-holding conversations are not common. '*Let me hear you*' is hard to find.

Even children have bottled up emotions, which later result in various kinds of mental disorders like panic attacks, anxieties and fear psychosis. Working parents and the disintegration of the joint family system does not let children get time to talk to someone or open up. The busy all-demanding lifestyle has also left no space for emotions.

Expectations: Expectations are just like a merry-go-round. If we receive gifts and favours from someone, we start developing an attitude where we take someone for granted. And in case that person does not oblige us the next time, we get frustrated and irritated, which ultimately lead to stress in the long run. Another aspect is that we should not expect anything in return from anyone. We, as grown-ups, land into trouble when we underestimate a child and overestimate another adult. The less we expect, the better self-confident human beings we will become. *The deepest fear we have, 'the fear beneath all fears,' is the fear of not measuring up, the fear of judgment. It's this fear that creates the stress and depression of everyday life.*(2)

Communication: There was a time when friends would sit next to you and listen to your silence. Words were never required for communication. They could read your eyes, face and expressions and would subsequently gauge your pain, anguish, hurt and fears. Further, remedies and measures were suggested to alleviate one's suffering. Today, we simply have an awkward silence. The warmth, caring, pairing and sharing has just fizzed out.

Silent stress: Stress caused by access to mobile phones is an altogether different genre of ailment which has gripped the teenagers. Firstly it has led to less sleep, change in sleep patterns and sometimes insomnia. Anxiety comes with mobiles. One gets impatient to text and waits anxiously for replies and likes. This problem is further aggravated by delayed responses and adverse comments. Online gaming is also taking its toll. Some of the games have caused kids to

commit suicide. The addiction to mobiles has now become a full-blown disease. In the near future, we are going to see de-addiction centers for mobiles. The *all in all* showy lifestyle on Facebook and other networking sites has troubled teenagers and adults alike. This ultimately causes silent stress.

Stress Management

"Each problem has hidden in it an opportunity so powerful that it literally dwarfs the problem. The greatest success stories were created by people who recognized a problem and turned it into an opportunity. (3)

Any problem of whatever magnitude would not let us get a solution unless and until we acknowledge and accept that a problem exists. First of all, we have to accept there is a problem. Although tell-tale signs of stress are visible to our near and dear ones, they too fail to overlook the deviance. It's only when the problems becomes acute or the person suffers a nervous breakdown, that we wake up. Then, too, our efforts are half-hearted and not in a clear direction. The patient is taken to a GP (General Practitioner), whereas one ought to approach a psychiatrist. The family lives in a make believe world that everything would be ok. In our country going to a clinical psychiatrist is not only a taboo, but also a stigma. The irritability, insomnia, outbursts, anger, lack of focus and concentration are all visible, but the care givers fail to take them seriously. By the time it changes, a lot of delay has been caused. This perception needs to be changed.

Initially, managing stress is not at all difficult. If one follows a disciplined lifestyle, this wouldn't happen. Life has this wonderful quality, at any stage one can take decision to take on life. Once someone decides to fight, the solution is not far behind. *Adopting the right attitude can convert a negative stress into a positive one. (4)*

Life style modification: Once it has been established that stress is taking its toll, lifestyle changes are a must. There is an age old maxim

that tells us to, follow nature. The closer we are to nature, the more we are at ease and at peace with ourselves. An early morning walk pumps fresh air in our lungs, which in turn rejuvenates us and leads us towards a positive outlook. *Letting go helps us to live in a more peaceful state of mind and helps restore our balance. It allows others to be responsible for themselves and for us to take our hands off situations that do not belong to us. This frees us from unnecessary stress.(5)*

Get more active physically: The moment we start working physically, not only does the mind get rest, it also starts secreting endorphins which develop a happy feeling in us. It also improves the quality of our sleep, which in turn repairs our tired mind.

Music: Music is the mantra of the soul and one of the easiest ways to attain mental and psychological equilibrium. Light instrumental music takes us to feet tapping, classical music relaxes us and devotional music makes us completely surrender to His Divine Will. In earlier times, women in the kitchen would sing *bhajans* while cooking, this in turn added positive energy to the food cooked and consumed. This tradition is still prevalent in South India.

Practice Gratitude: If we count our blessings, we are the richest and the most blessed person on this planet. The moment we start practicing gratitude, our thought process as well as our perception changes. We learn to accept life in all its shades. At times life could be bad, still it is much better than the worse.

Prayers: All over the world, psychotherapists have realised the power of prayers. The sooner we incorporate prayers in life, the sooner the realisation that life is beautiful dawns on us. The connection with the Supreme Power takes away our worries, anxieties, fears and apprehensions. Thus, we can start afresh.

Meditation, Pranayaam and Breathing Exercises: In prayers we speak to God, whereas

in meditation we listen to him. So, as long as we listen to the Almighty, we remain rooted to the ground. Meditation changes the way our mind works. The best part is that it is free and can be done anywhere and anytime. Although mornings are the best time to meditate, there is no hard and fast rule for this. Whenever and wherever one gets time, this can be performed. If one finds meditation and *pranayaam* difficult, one can simply take recourse to breathing techniques, especially deep breathing or abdominal breathing. This certainly makes both sides of the brain work. Subsequently, with both sides working, one can be both, emotional as well as logical. *Reduce the stress levels in your life through relaxation techniques like meditation, deep breathing, and exercise. You'll look and feel way better for it.*

Conclusion

If you don't think your anxiety, depression, sadness and stress impact your physical health, think again. All of these emotions trigger chemical reactions in your body, which can lead to inflammation and a weakened immune system. Learn how to cope, sweet friend. There will always be dark days.(6)

We should realise that stress is a part and parcel of life. While stress can help us scale heights, it can also lead us towards depression. To overcome stress, we need to know how to handle it. Reach out to the person who knows you best and this person is none other than you. You are the best person who knows and understands you. Be clear and be confident. Don't let anybody tell you any different, because you are special and awesome. This is the best advice that you can give yourself. Happiness or stress is a choice that we make, others just contribute to it.

References

1. <https://www.helpguide.org/articles/stress/stress-symptoms-signs-and-causes.htm>
2. https://www.brainyquote.com/quotes/tullian_tchividjian_571018
3. Joseph Sugarman, American Author
4. https://www.brainyquote.com/quotes/hans_selye_381383
5. Melody Beattie, *The Language of Letting Go*
6. Kris Carr, *Life, wellness, Celebrating a Decade Thriving With Cancer*, December 6, 2017

Promotion of Healthy Food Choices and Eating Habits among School Children using Video Games

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Abstract

Global shift in food choices and dietary pattern of children is leading to overweight and micronutrient deficiencies among them. There is a need for innovative nutrition interventions targeted at young school-going children to make them aware of healthy food choices in order to combat increased risk of non-communicable diseases early in life. Video games on nutrition offer innovative, exciting and motivating opportunities for effective delivery of messages related to healthy eating behaviour. This review examines fourteen video games for their use in promotion of healthy food choices and eating habits among school children. Most games have demonstrated positive outcomes in knowledge and/or behaviour related to healthy food choices post-gaming sessions. However, there is a need for further research on the retention of knowledge and translation into long-term behaviour change.

Keywords: Adolescent hypertension, Hypotension, Adolescent blood pressure, Family history, Anthropometry

Introduction

Over the years, the ongoing global nutrition transition has impacted the eating patterns of children, with a shift towards an increased consumption of processed foods, sugar-sweetened beverages, diets poor in fruit and vegetable, a decline in breakfast intake and reduced physical activity, contributing to the increased prevalence of obesity, non-communicable diseases and micronutrient deficiencies (Popkin, Adair, & Ng, 2012; UNICEF, 2010). Evidence reveals that increased exposure to unhealthy diet and physical inactivity are contributing to the early onset of chronic diseases (de Oliveira Otto et al., 2016; Miskurka et al., 2012). Aggressive promotion/marketing, easy availability and access to fast foods is majorly responsible for this dietary change (Hawkes, 2006).

The eating habits and behaviours that are acquired in the early years of life continue into adulthood and become more engrained and resistant to change (Chitra & Reddy, 2007; Lucas, BL; Feucht, 2008; Srivastava, Mahmood, Srivastava, Shrotriya, & Kumar, 2012).

Therefore, it is essential to create conditions that will promote the development of healthy eating practices among children. Nutrition-related educational interventions targeted towards school children have the potential to improve their knowledge and habits (Manios & Kafatos, 1999; Pérez-Rodrigo & Aranceta, 2003). Besides family, schools serve as a good avenue for encouraging children to learn and adapt to healthy eating behaviours and lifestyles (Eatwell, 2011; Pérez-Rodrigo & Aranceta, 2003).

Games play an inevitable role in children's life and offer an engaging environment that can lead to effective learning. It is well-established that 'play' is essential to a child's cognitive, social, physical and emotional development and well-being (Frost, Wortham, & Reifel, 2012). Children often lack interest in learning via conventional teaching methods, therefore captivating their attention by innovative play-way methods that involve active participation can be effective in improving their nutrition knowledge (Bober, 2010). The main purpose of games is entertainment. A variety of behaviour change theories, approaches and techniques can be employed by educators and designers to

develop educational games. Video games that are based on behaviour change theories are promising as they motivate children to learn healthy behaviours. Design strategies including role-playing, narratives, challenges and interactive choices within the game help in engaging children (Dickey, 2005).

Video Games for promotion of healthy eating

Video games have built-in features that are engaging, enjoyable and encourage repeated play by children as they provide competitive interaction. Games have rules, goals, challenges, scores and criteria for winning or losing, and may also have game characters, animation, storyline, role play, simulation, reinforcing messages, levels and multiplayer features (Prensky, 2003). Video games are very popular among children as they are exciting, innovative and highly motivating, and, therefore, are potentially a very effective channel for delivery of important health and nutrition messages (Rideout, Ulla, Foehr, & Roberts, 2010).

Studies have observed that learning by doing i.e. action is more effective than learning through explanation (Oblinger, 2004; Papastergiou, 2009). Educational video games offer learning by virtually doing action. These have the purpose of edutainment, intended to be educational as well as entertaining (Griffiths, 2002; Šakić & Varga, 2015). Video games have demonstrated to be more effective than traditional teaching methods in terms of learning as well as retention (Bahrami, Rahimi Chegini, Kianzadeh, Emami, & Abdi, 2012; Wouters, van Nimwegen, van Oostendorp, & van der Spek, 2013).

Table 1 summarises details about fourteen nutrition video games reviewed in this article. Video games on promotion of healthy food choices teach about food groups, food pyramid, balanced meals, nutrient content of food, portion sizes, selecting nutritious food, energy balance, healthy and unhealthy food, processed food, importance of meals and functions of food (Table 2). These games have levels, challenges, scores and rewards which make learning interesting and effortless. Some games have a game character whose level of health depends on the food choices made by the player (Chagas, Pontes e Silva, Reffatti, Botelho, & Toral, 2018; Moore et al., 2009; Schneider et al., 2012). The players are required to follow the guidelines of

healthy eating in order to maintain health of the game character and to score well and win the game. Healthy food choices are rewarded with scores, level ups or improvement in the level of health (Schneider et al., 2012) which motivate the player to play for a longer duration and reach the game goal. Game platforms used for these games are mainly computers, mobiles, tablets and consoles. There are educational video games where players are required to sit and play, but Exergames or Active video games are a newer generation of video games where game-play happens with the players' movement, thereby encouraging physical activity among them (Hermans et al., 2018; Johnson-Glenberg & Hekler, 2013; Alice Rosi et al., 2015).

Description of games

Fourteen video games developed for the promotion of healthy food choices and eating are described below:

Alimentary my dear Joe (Turnin et al., 2001) is a set of 4 games (*Store, Guess Who, Granny Smith, The Restaurant*) based on healthy food choices, focusing on the food groups, nutritional properties of foods, balanced meals and selection of healthy ingredients for meals and snacks. *The Restaurant* teaches about balanced meals. In this game, children are supposed to catch 3D cartoon-animated foods that jump out of the refrigerator and then put these foods in the right plates. Children are required to ensure that the food in the plate includes all food groups ensuring balance. Apart from these games, *Alimentary my dear Joe* includes a calculator which provides composition of different foods with their nutrient content.

Squire's Quest! I (Baranowski et al., 2003; Cullen, Watson, Baranowski, Baranowski, & Zakeri, 2005) is an interactive game with 10 sessions on fruit and vegetable consumption. The game focusses on portion size, substitutions for fruits and vegetables based on availability and time. The game has a wizard to mentor the player through challenges and earn dragon-scale points. Virtual kitchen is one interesting component of this game, which gives the players a chance to virtually select ingredients and cook healthy food.

Blast-off Game, part of *Color My Pyramid* nutrition programme (Moore et al., 2009), is based on USDA guidelines. In this game,

children are supposed to choose foods and physical activities from options available to them and drag and drop them on a rocket ship. They could then click on the 'Blast-Off' button to see if the energy balance (i.e. balance between food intake and energy expenditure through physical activity) was appropriate. The game is aimed at improving children's self-efficacy in choosing foods and activities to meet their daily food group requirement while maintaining calorie balance (including three meals and a snack, avoiding high fat and sugar foods and incorporating 60 minutes of physical activity in their daily schedule).

Escape from DIAB (DIAB) and Nanoswarm (NANO) (Baranowski et al., 2011; Ledoux et al., 2016; Wang, Baranowski, Lau, Buday, & Gao, 2017) are aimed at prevention of Type II diabetes among children by promoting more fruits and vegetable intake, water intake and increased physical activity. These contain mini-games on physical activity, nutrition and energy balance aimed at improving the self-efficacy of players towards the energy balance concepts. These games include distinguishing between healthy and unhealthy desserts, snacks and beverages, identifying nutritious food based on nutrition fact labels, recognising appropriate portion sizes of fruits and vegetables. The game design is such that the players can progress to the next game only when the minimum criteria of knowledge and mastery is met.

Fitter Critters (Schneider et al., 2012) is another game based on USDA guidelines. In this game the player is responsible for the health of a pet *Critters*. Healthy foods are to be chosen while considering fat, sugar and calorie requirements of the pet for ensuring its health. When the pet becomes healthier, it wins more sport games, earns more points, gets sick less and goes to work to earn money. The game has 17 quests, meters indicating health level, food that can be purchased at the grocery or restaurant or harvested for free at the garden, sports games for Critter's to play, virtual cooking games to create healthy recipes for Critters.

Squire's Quest! II: Saving the Kingdom of Fivealot (Cullen, Liu, & Thompson, 2016; Thompson et al., 2012) is a narrative video game which promotes fruit and vegetable consumption among children. This game is the sequel to *Squire's Quest! I*. In this game, the character,

Squire, is required to acquire knowledge and skills of the Fivealot Knights. This involves goal-setting techniques that encourage children to involve parents in order to improve the availability of fruits and vegetables at home.

YummyTricks (Inglés-Camats, Presno-Rivas, Antonijoan, Garcia-Panella, & Forrest, 2012) is a set of several games focused on healthy eating habits. The first game aims at teaching categorisation of foods as per the food pyramid. The player has to collect falling foods from a single food group into a basket. This game focuses on teaching about food groups, balanced diet, importance of meals and amount of foods to be consumed for different meals.

ETIOBE Mates (Baños, Cebolla, Oliver, Alcañiz, & Botella, 2013) is an educational website that includes serious games designed to prevent and treat childhood obesity with the aim of improving self-control mechanisms, maintenance of body weight and treatment adherence among children. The content included was nutritional terms, dietary recommendations, nutrient content of foods, food choices and diet-disease association. *Healthy Plate* is one of the games where the player is required to categorise different foods according to food groups in the food pyramid and select their correct nutritional property. *SUPER Etiobe* is another game where the players are supposed to help detectives solve cases of children with unhealthy eating habits and sedentary lifestyles by improving food choices and physical activity pattern.

Alien Health Game (Hermans et al., 2018; Johnson-Glenberg & Hekler, 2013) is a Kinetic Sensor game where motion capture technology is used. The player is required to provide appropriate foods to the game character in order to make it feel better. The game has several levels focused on teaching about healthy food choices and reasons for the choice. In the final level of the game, the player is required to drag individual food items into a tray to create a healthy and balanced lunch for the Alien and press the 'Eat' button.

Healthy Foodie Friends (Kohli & Chadha, 2014) is a bilingual (English and Hindi) computer game set comprising 5 games and 8 animations, targeted towards 7–9 years old primary school children attending private schools in India. The game set is based on key messages formulated on the basis of preliminary data gathered on

existing food choices, knowledge and game choices of the target group, in addition to the existing Dietary Guidelines for Indians. The games require the player to use the keyboard and mouse to select healthy foods/ meal wisely and then earn points and receive applause with positive words. Important features of the game include game character, storyline, animations, reinforcing messages, challenges and scoring.

“5 a day” game (Alice Rosi et al., 2015), consists of a two different games that are used as a part of a nutrition education programme in order to reinforce the knowledge provided to them. *Jummpyfive* is the game character which was designed to help children learn. In the first game, *Menu Composer*, the player is supposed to select fruits and vegetables and drop them into the appropriate dish. The scoring of the game is based on Five Rules of Well-being and total antioxidant capacity of the fruits and vegetables selected during the game. The time allotted to the player for *Jump Mania* game is proportional to their score of the first game. *Jump Mania* game is a jumping and dancing game based on music and a balance-board where the right combination of arrows has to be achieved in order to score well. The players are provided with a daily menu of complete meals based on the fruits and vegetables selected by them in the first game and even given recipes in the case of complex dishes.

Healthy Food Champion (Deol & Chadha, 2015) comprises 6 games and 10 animations for 11-14 years old children studying in Government schools of India. These games are primarily in the Hindi language along with some English words, keeping in mind the ease in comprehension. The games focus on the functions of food, food pyramid, balanced diet, importance of fruits and vegetables, selecting healthy foods and hand washing.

Quest to Lava Mountain (Sharma et al., 2015) is a 3D web based action-adventure video game in which children are required to make correct food choices in order to progress in the game. This is another role-playing game where selecting healthy food, cooking and consuming healthy food improves the character's health.

Rango Cards (Chagas et al., 2018) is a mobile card game including coloured cards for foods and meals, healthy habits and characters aimed at improving food knowledge and self-efficacy

of children in the adoption of healthy food behaviour. The game uses a traffic light categorisation of foods as green card for healthy foods/ should be consumed regularly; yellow cards represents foods that should be moderately consumed; and red cards representing foods that should be avoided (*based on recommendations of Dietary Guidelines for the Brazilian Population*). The game also has a character that has a health score accompanied by sodium, sugar and fat content meters which are based on the player's selection of processed foods.

Effectiveness of video games on healthy food choices

All video games that have been tested for their effectiveness with respect to healthy eating have shown improvement in knowledge and/ or behaviour post-gaming session. Six out of eleven studies tested the effectiveness of video games on knowledge of healthy food choices, among which five studies (Baños et al., 2013; Hermans et al., 2018; Johnson-Glenberg & Hekler, 2013; Kohli & Chadha, 2014; Schneider et al., 2012; Turnin et al., 2001) demonstrated an improvement in knowledge, whereas there was no change in the case of one study (Moore et al., 2009). There is limited information on aspects of nutrition knowledge which showed improvement. Some studies showed that children were able to identify healthier food items (Hermans et al., 2018; Kohli & Chadha, 2014), food items rich in various nutrients (Kohli & Chadha, 2014; Turnin et al., 2001) and different categories of food (Turnin et al., 2001) after the gaming session. Although *Blast-Off Game*, which was a part of a nutrition education course *Color My Pyramid*, demonstrated no significant increase in nutrition knowledge post-intervention, there was a significant improvement in physical activity time and a decrease in systolic blood pressure (Moore et al., 2009). A study on *Alien Health*, motion sensor game, found that though nutrition knowledge improved immediately post-gaming session, it could not be retained at a 2 week follow up (Hermans et al., 2018). However, more evidence is needed on knowledge retention over time.

Apart from knowledge, playing video games on nutrition has been observed to improve eating habits of children by decreasing their sugar intake (Sharma et al., 2015) and fat intake (Turnin et al., 2001), changing their snacking

pattern (Turnin et al., 2001) and improving their fruit and vegetable consumption (Baranowski et al., 2003, 2011, Cullen et al., 2016, 2005; Ledoux et al., 2016; Alice Rosi et al., 2015; Thompson et al., 2012, 2015). Further, playing these games has also resulted in an increased intake of dietary fibre and calcium (Turnin et al., 2001) among children. Positive change has also been observed in the attitude and self-efficacy towards healthy eating and physical activity (Moore et al., 2009; Schneider et al., 2012; Sharma et al., 2015).

Irrespective of the varied game features and components of these video games, it’s interesting to note that all of them resulted in enhanced knowledge and/ or eating habits. Some of the video games also had additional components such as educational video clips, animations, recipe cookbooks and websites.

Conclusion

Our review indicates that video games can be an effective tool for the promotion of healthy eating habits among children. Playing these games can lead to improved nutrition knowledge, enhanced self-efficacy and attitude towards healthy eating and healthier eating behaviour among children. Video games are exciting and captivating which makes them a potential platform for effective learning. However, there is need for further research on the long term effectiveness of video games on retention of healthy eating habits and knowledge among children. Game features are an important aspect that can affect the players’ gaming experience and, consequently, the effectiveness of the game. Video games can be designed to include variety by occasionally modifying and adding more features, game levels, targets, tasks and activities along with rewards in order to reinforce same nutrition messages several times. Future research that focuses on examining which features of video games support learning would be beneficial.

Table 1. Educational Video games on Healthy Food Choices (n=14)

S. No.	Game title	Platform	Locale	Setting	Sample size (n), Age Group	Study Design	Theory	Measures	Duration	Game elements	Effectiveness
1.	<i>Alimentary my dear Joe</i> (Turnin et al., 2001)	PC	Spain	School	1876 students, 7 – 12 years	RCT	-	- Nutrition knowledge - Dietary intake and habits	1 hour/ twice a week for 5 weeks	Scoring, Calculator	Effective
2.	<i>Squire's Quest I</i> (Baranowski et al., 2003; Cullen et al., 2005)	PC	United States	School	1578 students, Grade 4 th	RCT	Social Cognitive	- Fruit servings, 100% juice and vegetable consumption - Dietary intake	25 minutes/ session for 10 sessions	Virtual kitchen, cooking, goal setting, points, wizard mentoring through challenges	Effective
3.	<i>Blast-off Game</i> (Moore et al., 2009)	PC	United States	School	126 students, Grades 4 th & 5 th	Two group, pre- post- quasi- experimental	Self-care deficit nursing	- Nutrition knowledge and behaviour - Physical activity - Anthropometric measures	3 months nutrition programme including the video game	Nutrition and physical activity meter	Effective (not in knowledge)
4.	<i>Escape from DIAB (DIAB) and Nanoswarm (NANO)</i> (Baranowski et al., 2011; Ledoux et al., 2016)	PC	United States	-	153 students, 10-12 years	Two-group RCT	Social Cognitive and Mastery Learning	- Fruit, vegetable and water servings - Minutes of moderate to vigorous PA - Anthropometric measures	-	Goal setting	Effective (only in fruit and vegetable consumption)
5.	<i>Fitter Critters</i> (Schneider et al., 2012)	PC	Central Massachusetts	School	97 students, 8 – 12 years, Grade 5 th	Single group pre- & post- quasi- experimental		Knowledge, self-efficacy, attitude, game acceptability	5 consecutive days	Role play game 17 quests, health and diet meters, food grocery, restaurant and harvesting, cooking, sports game, work and decorations	Effective
6.	<i>Squire's Quest! II</i> (Cullen et al., 2016; Thompson et al., 2012, 2015)	PC	United States	Home or Community	400 parent/ child dyads, 9 – 11 years, Grades 4 th & 5 th	Four-group, randomized design	Social Cognitive	- Fruit and vegetable intake	3 months, 10-episode video game	Game character, goal setting	Effective
7.	<i>YummyTricks</i> (Inglés-Camats et al., 2012)	PC	Spain	-	7 – 10 years	-	-	-	-	Dragging virtual objects	Not tested

8.	<i>Alien Health Game</i> (Hermans et al., 2018; Johnson-Glenberg & Hekler, 2013)	Mixed reality platform	United States	School	20 children, Grade 4 th – 12 th	RCT	Learning	- Nutrition Knowledge	45 minutes	Story, levels, exergame using Kinect sensor	Partly Effective (only in immediate knowledge but no effect on long term knowledge or behaviour)
9.	<i>ETIOBE Mates</i> (Baños et al., 2013)	PC	France	-	228 students, Grades 4 th – 6 th	RCT	-	- Nutrition knowledge - Game acceptability	Educational website including game	Story, healthy plate, memory game, scoring	Effective
10.	<i>Healthy Foodie Friends</i> (Kohli & Chadha, 2014)	PC	India	School	33 students, 7 – 9 years	Single group pre- post-quasi-experimental	-	- Nutrition knowledge - Game acceptability	1 gaming session along with educational animations	Game character, scores, goals, reinforcing positive words, animation, bilingual	Effective
11.	<i>"5 a day" game</i> (Alice Rosi et al., 2015)	PC	Parma and Milano, Italy	School	76 students, 8 – 10 years	Single-group pre- & post-test	-	- Dietary intakes of fruits, vegetables, juices - Dietary total antioxidant capacity (TAC)	3-month nutritional programme including lessons and educational video games	Dragging-dropping, Jumping and dancing, game character, goal setting	Effective
12.	<i>Healthy Food Champion</i> (Deol & Chadha, 2015)	PC	India	School	11 – 14 years	-	-	-	-	Game character, scores, goals, reinforcing positive words, animation, bilingual	Not tested
13.	<i>Quest to Lava Mountain</i> (Beasley et al., 2012; Sharma et al., 2015)	PC	United States	School	94 students, 8 – 12 years, Grades 4 th & 5 th	Group RCT	Social Cognitive Theory, Theory of Reasoned Action	- Dietary intake - Physical activity - Psychosocial factors	6 weeks	Quests, game strategies (mazes, interactive activities and simulations), avatars, traverse virtual environments, color-coding to categorize foods w.r.t. nutrient density and calorie content, coin rewards, recipes, foods in game from ethnically diverse backgrounds	Effective (in terms of sugar consumption and nutrition/ physical activity attitudes)
14.	<i>Rango Cards</i> (Chagas et al., 2018)	Mobile/ Tablet	Federal District, Brazil	Private schools	13 – 24 years	-	-	-	-	coloured cards for foods and meals, healthy habits and characters, health score, sodium, sugar, fat content meter	Not tested

Table 2. Educational content of video games on promotion of healthy food choices

S. No.	Video Games	Selection of nutritious food	Food group	Food pyramid	Balanced meal	Nutrient content	Portion size	Moderation & variety	Energy balance	Functions of food	Selection of ingredients for recipes	Physical Activity
1.	<i>Alimentary my dear Joe</i>	✓	✓		✓	✓						
2.	<i>Squire's Quest I</i>	✓					✓				✓	
3.	<i>Blast-off Game</i>	✓	✓	✓			✓	✓	✓			✓
4.	<i>Escape from DIAB and NANO</i>	✓					✓		✓			✓
5.	<i>Fitter Critters</i>	✓	✓		✓	✓						✓
6.	<i>Squire's Quest! II</i>	✓					✓				✓	
7.	<i>YummyTricks</i>		✓	✓	✓		✓					
8.	<i>Alien Health Game</i>	✓	✓		✓							
9.	<i>ETIOBE Mates</i>	✓		✓		✓						✓
10.	<i>Healthy Foodie Friends</i>	✓	✓	✓	✓			✓		✓		
11.	<i>"5 a day" game</i>	✓			✓		✓	✓			✓	
12.	<i>Healthy Food Champion</i>	✓	✓	✓	✓			✓		✓		
13.	<i>Quest to Lava Mountain</i>	✓	✓			✓		✓				✓
14.	<i>Rango Cards</i>		✓		✓	✓						

REFERENCES

1.Bahrami, F., Rahimi Chegini, Z., Kianzadeh, A., Emami, F., & Abdi, H. (2012). A comparison of the effectiveness of game-based and traditional teaching on learning and retention of first grade math concepts. *Pelagia Research Library European Journal of Experimental Biology* (Vol. 2).

2.Baños, R. M., Cebolla, A., Oliver, E., Alcañiz, M., & Botella, C. (2013). Efficacy and acceptability of an Internet platform to improve the learning of nutritional knowledge in children: the ETIOBE Mates. *Health Education Research*, 28(2), 234–48. <https://doi.org/10.1093/her/cys044>

3.Baranowski, T., Baranowski, J., Cullen, K. W., Marsh, T., Islam, N., Zakeri, I., Honess-Morreale, L. & deMoor, C. (2003). Squire’s Quest! Dietary outcome evaluation of a multimedia game. *American Journal of Preventive Medicine*, 24(1), 52–61.

4. Baranowski, T., Baranowski, J., Thompson, D., Buday, R., Jago, R., Griffith, M. J., Islam, N., Nguyen, N. & Watson, K. B. (2011). Video Game Play, Child Diet, and Physical Activity Behavior Change. *American Journal of Preventive Medicine*, 40(1), 33–38. <https://doi.org/10.1016/j.amepre.2010.09.029>
5. Baranowski, T., Buday, R., Thompson, D. I., & Baranowski, J. (2008). Playing for real: video games and stories for health-related behavior change. *American Journal of Preventive Medicine*, 34(1), 74–82. <https://doi.org/10.1016/j.amepre.2007.09.027>
6. Beasley, N., Sharma, S., Shegog, R., Huber, R., Abernathy, P., Smith, C., & Hoelscher, D. (2012). The Quest to Lava Mountain: Using Video Games for Dietary Change in Children. *Journal of the Academy of Nutrition and Dietetics*, 112(9), 1334–1336. <https://doi.org/10.1016/j.jand.2012.05.010>
7. Bober, M. (2010). *Games-based experiences for learning*. Available from: <https://www.nfer.ac.uk/media/1775/futl11.pdf> (Accessed on 10 Oct 2018)
8. Chagas, C. M. dos S., Pontes e Silva, T. B., Reffatti, L. M., Botelho, R. B. A., & Toral, N. (2018). Rango Cards, a digital game designed to promote a healthy diet: a randomized study protocol. *BMC Public Health*, 18(1), 910. <https://doi.org/10.1186/s12889-018-5848-0>
9. Chitra, U., & Reddy, C. R. (2007). The role of breakfast in nutrient intake of urban schoolchildren. *Public Health Nutrition*, 10(1), 55–8. <https://doi.org/10.1017/S1368980007219640>
10. Cullen, K. W., Liu, Y., & Thompson, D. I. (2016). Meal-Specific Dietary Changes From Squires Quest! II: A Serious Video Game Intervention. *Journal of Nutrition Education and Behavior*, 48(5), 326–330.e1. <https://doi.org/10.1016/j.jneb.2016.02.004>
11. Cullen, K. W., Watson, K., Baranowski, T., Baranowski, J. H., & Zakeri, I. (2005). Squire's Quest: intervention changes occurred at lunch and snack meals. *Appetite*, 45(2), 148–51. <https://doi.org/10.1016/j.appet.2005.04.001>
12. de Oliveira Otto, M. C., Afshin, A., Micha, R., Khatibzadeh, S., Fahimi, S., Singh, G., Danaei, G., Sichieri, R., Monteiro, C. A., Louzada, M. L. C., Ezzati, M., Mozaffarian, D., Global Burden of Diseases, Injuries, and Risk Factors Metabolic Risk Factors of Chronic Diseases Expert Group & Nutrition and Chronic Diseases Expert Group (NutriCoDE). (2016). The Impact of Dietary and Metabolic Risk Factors on Cardiovascular Diseases and Type 2 Diabetes Mortality in Brazil. *PLOS ONE*, 11(3), e0151503. <https://doi.org/10.1371/journal.pone.0151503>
13. Deol, S., & Chadha, R. (2015). Development of an Educational Computer Game to promote Healthy Food Choices among Adolescents (11-14 years) attending Government Schools. *Unpublished Research – M.Sc. (Food and Nutrition) Thesis*. Lady Irwin College, University of Delhi, New Delhi.
14. Dickey, M. D. (2005). Engaging by Design: How Engagement Strategies in Popular Computer and Video Games Can Inform Instructional Design. Springer. *Educational Technology Research and Development*, 53(2), 67-83. <https://doi.org/10.2307/30220429>
15. Eatwell. (2011). Review of policy actions, data available for their analysis and existing evaluations throughout Europe. Retrieved March 14, 2014, from <http://eatwellproject.eu/en/Eatwell-research/Project-Reports/>
16. Frost, J. L., Wortham, S. C., & Reifel, S. (2012). *Play and Child Development* (4th ed.). Pearson.
17. Griffiths, M. (2002). The educational benefits of videogames. *Education and Health*, 20, 47–51.

- 18.Hawkes, C. (2006). Uneven dietary development: linking the policies and processes of globalization with the nutrition transition, obesity and diet-related chronic diseases. *Globalization and Health*, 2, 4. <https://doi.org/10.1186/1744-8603-2-4>
- 19.Hermans, R. C. J., van den Broek, N., Nederkoorn, C., Otten, R., Ruiter, E. L. M., & Johnson-Glenberg, M. C. (2018). Feed the Alien! The Effects of a Nutrition Instruction Game on Children's Nutritional Knowledge and Food Intake. *Games for Health Journal*, 7(3), 164–174. <https://doi.org/10.1089/g4h.2017.0055>
- 20.Inglés-Camats, G., Presno-Rivas, M. M., Antonijoan, M., Garcia-Panella, O., & Forrest, T. (2012). Yummy tricks: a serious game for learning healthy eating habits. *Studies in Health Technology and Informatics*, 172, 185–90.
- 21.Johnson-Glenberg, M. C., & Hekler, E. B. (2013). “Alien Health Game” : An Embodied Exergame to Instruct in Nutrition and MyPlate. *Games for Health Journal*, 2(6), 354–361. <https://doi.org/10.1089/g4h.2013.0057>
- 22.Kohli, S., & Chadha, R. (2014). Development of an Educational Computer Game to promote Healthy Food Choices among Primary School Children (7 - 9 years) attending Public Schools. *Unpublished Research – M.Sc. (Food and Nutrition) Thesis*. Lady Irwin College, University of Delhi, New Delhi
- 23.Ledoux, T., Griffith, M., Thompson, D., Nguyen, N., Watson, K., Baranowski, J., Buday, R., Abdelsamad, D., & Baranowski, T. (2016). An Educational Video Game for Nutrition of Young People. *Simulation & Gaming*, 47(4), 490–516. <https://doi.org/10.1177/1046878116633331>
- 24.Lucas, BL; Feucht, S. (2008). Nutrition in Childhood. In S. Escott-Stump & L. K. Mahan (Eds.), *Krause's Food and Nutrition Therapy* (12th ed., pp. 222–245). Saunders/Elsevier.
- 25.Manios, Y., & Kafatos, A. (1999). Health and nutrition education in elementary schools: changes in health knowledge, nutrient intakes and physical activity over a six year period. *Public Health Nutrition*, 2(3A), 445–8.
- 26.Miszkurka, M., Haddad, S., Langlois, É. V, Freeman, E. E., Kouanda, S., & Zunzunegui, M. V. (2012). Heavy burden of non-communicable diseases at early age and gender disparities in an adult population of Burkina Faso: World Health Survey. *BMC Public Health*, 12, 24. <https://doi.org/10.1186/1471-2458-12-24>
- 27.Moore, J. B., Pawloski, L. R., Goldberg, P., Kyeung, M. O., Stoehr, A., & Baghi, H. (2009). Childhood obesity study: a pilot study of the effect of the nutrition education program Color My Pyramid. *The Journal of School Nursing : The Official Publication of the National Association of School Nurses*, 25(3), 230–9. <https://doi.org/10.1177/1059840509333325>
- 28.Oblinger, D. G. (2004). The Next Generation of Educational Engagement. *Journal of Interactive Media in Education*, 2004(1), 10. <https://doi.org/10.5334/2004-8-oblinger>
- 29.Papastergiou, M. (2009). Exploring the potential of computer and video games for health and physical education: A literature review. *Computers & Education*, 53(3), 603–622. <https://doi.org/10.1016/J.COMPEDU.2009.04.001>
- 30.Pérez-Rodrigo, C., & Aranceta, J. (2003). Nutrition education in schools: experiences and challenges. *European Journal of Clinical Nutrition*, 57, S82–S85. <https://doi.org/10.1038/sj.ejcn.1601824>
- 31.Popkin, B. M., Adair, L. S., & Ng, S. W. (2012). Global nutrition transition and the pandemic of obesity in developing countries. *Nutrition Reviews*, 70(1), 3–21. <https://doi.org/10.1111/j.1753-4887.2011.00456.x>

32. Prensky, M. (2003). Digital game-based learning. *Computers in Entertainment*, 1(1), 21. <https://doi.org/10.1145/950566.950596>
33. Rideout, V. J., Ulla, M. A., Foehr, G., & Roberts, D. F. (2010). Generation M2: Media in the Lives of 0-18 Year Olds. Retrieved October 17, 2018, from <https://files.eric.ed.gov/fulltext/ED527859.pdf>
34. Rosi, A., Dall'Asta, M., Brighenti, F., Del Rio, D., Volta, E., Baroni, I., Nalin, M., Coti, Z. M., Sanna, A., & Scazzina, F. (2016). The use of new technologies for nutritional education in primary schools: a pilot study. *Public Health*, 140, 50–55. <https://doi.org/10.1016/j.puhe.2016.08.021>
35. Rosi, A., Scazzina, F., Ingrosso, L., Morandi, A., Del Rio, D., & Sanna, A. (2015). The “5 a day” game: a nutritional intervention utilising innovative methodologies with primary school children. *International Journal of Food Sciences and Nutrition*, 66(6), 713–717. <https://doi.org/10.3109/09637486.2015.1077793>
36. Šakić, M., & Varga, V. (2015). Video Games as an Education Tool. In *The Sixth International Conference on e-Learning (eLearning-2015)*. Belgrade, Serbia.
37. Schneider, K. L., Ferrara, J., Lance, B., Karetas, A., Druker, S., Panza, E., Olendzki, B., Andersen, V. & Pbert, L. (2012). Acceptability of an Online Health Videogame to Improve Diet and Physical Activity in Elementary School Students: “Fitter Critters”; *Games for Health Journal*, 1(4), 262–268. <https://doi.org/10.1089/g4h.2012.0009>
38. Sharma, S. V., Shegog, R., Chow, J., Finley, C., Pomeroy, M., Smith, C., & Hoelscher, D. M. (2015). Effects of the Quest to Lava Mountain Computer Game on Dietary and Physical Activity Behaviors of Elementary School Children: A Pilot Group-Randomized Controlled Trial. *Journal of the Academy of Nutrition and Dietetics*, 115(8), 1260–71. <https://doi.org/10.1016/j.jand.2015.02.022>
39. Srivastava, A., Mahmood, S. E., Srivastava, P. M., Shrotriya, V. P., & Kumar, B. (2012). Nutritional status of school-age children - A scenario of urban slums in India. *Archives of Public Health*, 70(1), 8. <https://doi.org/10.1186/0778-7367-70-8>
40. Thompson, D., Bhatt, R., Lazarus, M., Cullen, K., Baranowski, J., & Baranowski, T. (2012). A Serious Video Game to Increase Fruit and Vegetable Consumption Among Elementary Aged Youth (Squire's Quest! II): Rationale, Design, and Methods. *JMIR Research Protocols*, 1(2), e19. <https://doi.org/10.2196/resprot.2348>
41. Thompson, D., Bhatt, R., Vazquez, I., Cullen, K. W., Baranowski, J., Baranowski, T., & Liu, Y. (2015). Creating action plans in a serious video game increases and maintains child fruit-vegetable intake: a randomized controlled trial. *The International Journal of Behavioral Nutrition and Physical Activity*, 12(1), 39. <https://doi.org/10.1186/s12966-015-0199-z>
42. Turnin, M. C., Tauber, M. T., Couvaras, O., Jouret, B., Bolzonella, C., Bourgeois, O., Buisson, J. C., Fabre, D., Cance-Rouzaud, A., Tauber, J. P., & Hanaire-Broutin, H. (2001). Evaluation of microcomputer nutritional teaching games in 1,876 children at school. *Diabetes & Metabolism*, 27(4 Pt 1), 459–64.
43. UNICEF. (2010). *Food & Nutrition Security: In Pacific Island Nations and Territories*. Suva, Fiji Islands.
44. Wang, J. J., Baranowski, T., Lau, P. W. C., Buday, R., & Gao, Y. (2017). Story Immersion May Be Effective in Promoting Diet and Physical Activity in Chinese Children. *Journal of Nutrition Education and Behavior*, 49(4), 321–329.e1. <https://doi.org/10.1016/j.jneb.2017.01.001>

45. Wouters, P., van Nimwegen, C., van Oostendorp, H., & van der Spek, E. D. (2013). A meta-analysis of the cognitive and motivational effects of serious games. *Journal of Educational Psychology*, 105(2), 249–265. <https://doi.org/10.1037/a0031311>

Blood pressure profile of school going adolescents (13-15 yrs): Relation with anthropometric variables and family history

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ABSTRACT

Introduction: Raised blood pressure in adolescents is an emerging public health problem and is recognised as one of the most important predictors of adult hypertension. The etiologic process for adult blood pressure abnormalities starts early in life.

Objectives: The present study's objective was to screen adolescents for blood pressure and further compare the data on anthropometric variables – weight, height, BMI and waist circumference as well as family history amongst pre-hypertensive, hypertensive, hypotensive and normotensive adolescents.

Methods: The present study assessed the prevalence of pre-hypertension, hypertension and hypotension among adolescents (n=500) of a public school in East Delhi, India; and investigated its association with anthropometric variables- weight, height, BMI and waist circumference, as well as family history. Adolescents were screened for blood pressure, weight, height, BMI, and WC, along with familial history of abnormal blood pressure.

Results: Prevalence of prehypertension, hypertension and hypotension was found to be 9.4%, 7.8% and 9.8%, respectively. The study showed an association of hypertension and prehypertension with BMI and waist circumference. A positive correlation was found between SBP and WC ($r=0.3$), SBP and BMI ($r=0.28$); DBP and WC ($r=0.18$), DBP and BMI ($r=0.18$). SBP and WC showed strongest correlation, indicating the role of WC in adolescent hypertension. The present study also indicates that while mean age for hypotensive adolescents is highest, their mean weight and height are the lowest. On the other hand, mean weight and height was highest for pre-hypertensive adolescents, followed by hypertensive adolescents suggesting that being overweight and obese is likely to increase the risk of developing hypertension. By BMI categorisation, obesity and overweight taken together, was present in 51% of pre-hypertensive and 48.6% of hypertensive adolescents, while hypotensive group had the highest percentage of thin adolescents (12.2%). Further, hypertensive and pre-hypertensive individuals had highest mean waist circumference. Family history of abnormal blood pressure levels was more in pre-hypertensive (36.1%) and hypertensive group (35.8%) than in hypotensive and normotensive adolescents.

Conclusion: These results substantiate an evolving endemic of cardiovascular risk in youth, as evidenced by the prevalence of hypertension and its association with obesity indicators. Evaluation of anthropometric variables and family history should form early entry points in the adolescent demographic in order to regulate blood pressure irregularities.

Keywords: *physical health, adolescent health, life-style disorders*

1. Introduction

Cardiovascular Disease (CVD), known to be one of the major causes of death in developed nations, is increasingly being recognised as a major killer in developing nations (Lozano et al., 2012). Hypertension exerts a substantial public health burden on cardiovascular health status and healthcare systems in India (Srinath et al., 2005). In India, hypertension is the leading non-communicable disease risk and estimated to be attributable for nearly 10% of all deaths (Patel et al. 2011). According to the UNICEF Report (“State of the World’s Children”, 2011), adolescents comprise approximately 18% of the world’s population and India is home to more than 243 million adolescents, who account for a quarter of the country’s population.

Although, hypertension is a problem of adults, its etiologic process starts early in life. The prevalence and rate of diagnosis of hypertension in children and adolescents appears to be increasing. Investigation of blood pressure in children can contribute not only to the knowledge of etiology of the condition, but more importantly, can also prevent high blood pressure before its harmful sequel can occur (Verma, Chhatwal & George, 1994). Research evidence shows that hypertension in adults has its origin in childhood (Anand et al., 2014; Moura et al., 2004, Chen and Wang, 2008), which is the leading cause of premature death worldwide (Chobanian, 2003). The prevalence of adolescent hypertension in India ranges from 0.6% to 21.5% (Amma GD et al., 2015; Sundar et al., 2013; Naha, John & Cherian, 2016). Adolescents with high blood pressure have a significantly greater clustering effect of metabolic syndrome factors and other adverse outcomes like hypertensive encephalopathy, seizures, and even cerebrovascular accidents and congestive heart failure, when compared to adolescents with low blood pressure (Bruce & Sanaiko, 2008). It has also been noted that even asymptomatic adolescents with mild blood pressure elevations

can have target organ damage (Lurbe et al., 2005; Ejike & Ugwu, 2010).

Not just hypertension alone, but hypotension also is a cause of concern. Hypotension in adolescents can be linked to chronic fatigue, orthostatic dizziness, weakness, sleep disturbance, syncope or near syncope, headache, and loss of appetite (Tanaka et al., 1999). Low habitual systolic blood pressure has been associated with poor social, physical, and mental wellbeing as well as with a higher prevalence of anxiety and depression (Hildrum et al., 2007). Constitutionally, low blood pressure has been associated with diminished cognitive performance, mainly involving attention and reaction time (Wharton et al., 2005; Duschek & Schandry, 2007).

Hypertension in children and adolescents is defined as systolic BP (SBP) and/or diastolic BP (DBP) that is, on repeated measurement, at or above the 95th percentile. BP between the 90th and 95th percentile in childhood had been designated “high normal”. The child is normotensive if the BP is below the 90th percentile (Falkner et al., 2000).

According to the National Heart, Lung, and Blood Institute of the National Institute of Health, hypotension refers to an abnormally low blood pressure. Sheih et al. (2012) has given two definitions to determine hypotension in adolescents:

- i) BP below the 5th percentile or
- ii) BP below two standard deviations (SDs) of the mean for age and gender.

It is well known that obesity is a key determinant of elevated blood pressure in children and adolescents. There is an increase in the prevalence of overweight & obesity in childhood (Chhatwal, Verma & Rial, 2004; Marwaha et al., 2006; Khadikar & Khadikar, 2004). Obesity is a significant determinant of pre-hypertension and hypertension among adolescents (Amma GD et

al., 2015). Indian children are more susceptible to obesity-mediated hypertension. Higher prevalence of hypertension along with higher adiposity has also been reported (Raj et al., 2007). According to Reddy et al. (2012), hypertension in students was found to be significantly associated with higher BMI and with family history of hypertension. Family history is a non-modifiable risk factor for abnormal blood pressure values. The hereditary nature of hypertension is well established by numerous family studies, which confirm associations of blood pressure among first-degree relatives and between parents and children (Barlassina et al., 2002; Carretero and Oparil, 2000).

The increasing incidence of non-communicable diseases will lead to greater dependency and mounting costs of care for patients and their families, unless public health efforts to prevent these conditions are intensified. The present study, therefore, aims to screen the adolescents for blood pressure and further compare the data on anthropometric variables – weight, height, BMI and waist circumference as well as family history amongst the pre-hypertensive, hypertensive, hypotensive and normotensive adolescents.

2. Materials and Methods

The study was a cross-sectional study on the adolescents (aged 13-15 years) of Delhi. The study consisted of two components - screening of adolescents based on their blood pressure profile into normotensive, pre-hypertensive, hypertensive and hypotensive, and then further comparison regarding the anthropometric parameters measured. Based on the prevalence of hypertension among adolescents in Delhi being 16.6% (Bahl, Singh & Sabharwal, 2015), the sample size was calculated as 500. A co-educational school in East Delhi was selected, using the Purposive sampling method. From the selected school, six sections from class VIIth to IXth were selected randomly. Permission for this

study was obtained from Lady Irwin College Institutional Ethics Committee and Senior management of the School. Informed written consent was obtained from one of the child's parents and, in addition, assent was obtained from the child before conducting the study. Any subject suffering from other serious chronic conditions, on medication for some on-going illness or subjects with age less than 13 and greater than 15 years were not included in the study.

Data on general information was collected by using a pre-designed and pre-tested questionnaire. Anthropometric measures (height, weight, BMI and waist circumference) and BP data were obtained through physical examination, using standardised protocols and calibrated equipment. Height was measured up to 0.1cm sensitivity using Microtoise, using validated technique. Weight was recorded up to 100 g accuracy using Digital weighing balance, using validated technique (WHO, STEPS Surveillance). All the readings of height and weight were taken in duplicate and mean was calculated.

BMI was then calculated using this information. BMI cut-offs were identified using WHO reference graphs (2007). Non-stretchable flexible tape was used for measuring waist circumference, using validated technique (WHO, STEPS Surveillance). Waist circumference was divided into high and normal, based on the age and sex-specific waist circumference percentile values given by Kurian et al. (2011). Blood pressure was measured using Omoron Digital BP Monitor, using validated technique (WHO, STEPS Surveillance), wherein the instrument was to be on a level with the heart of the person whose BP is to be measured and the person's arm was put through the cuff loops. Arm was positioned correctly – the bottom edge of the cuff was at 1 or 2 cm above the elbow. Marker (arrow under tube) was centered on the middle of the inner arm. Velcro-fastener was closed when the cuff snugly encircled the upper arm.

START / STOP button was pressed. The reading of systolic, diastolic pressure, pulse rate was then noted down. Readings were taken again five minutes later. An average of the two BP readings was taken. Blood pressure classification by Banker et al. (2016) was used for BP classification, which is age-independent and uses gender and height.

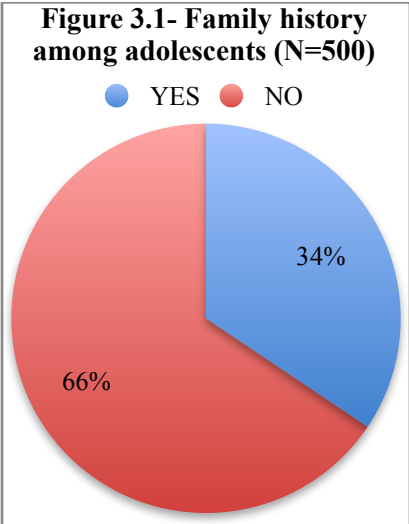
3. Results & Discussion

The Results and Discussion section of the study has been categorised and presented under the following heads-

I) Screening of adolescents (N=500) for BMI, WC and Blood Pressure-

a) Family history (FH) of abnormal blood pressure values-

In the present study, family history referred to a family history of both hypertension and/or hypotension. Figure 3.1 shows that a large number of the subjects (~35%) who participated in the study had a family history of either hypertension or hypotension.



b) BMI –

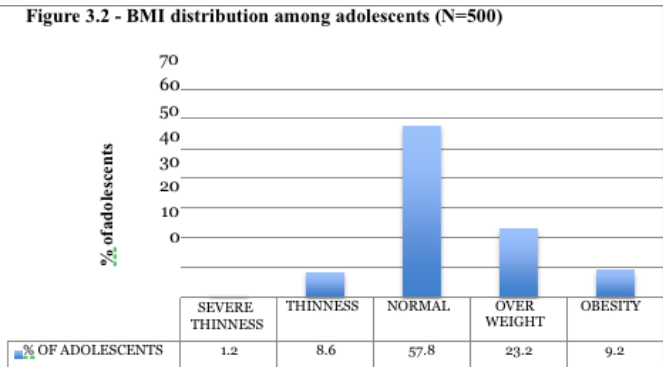
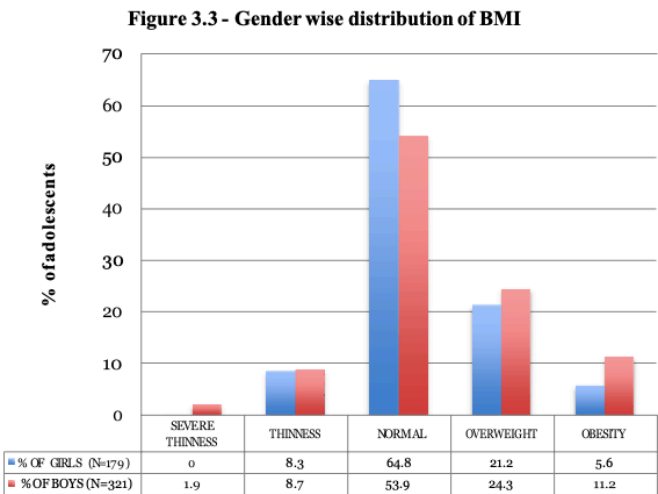


Figure 3.2 depicts BMI distribution among adolescents.

The reason for using BMI age and sex-specific percentiles for teens is that the amount of body fat is subject to change, with regards to age and gender (About Child and Teen BMI, CDC website).

57.8% adolescents were under the normal BMI range. While 23.2% of adolescents were overweight, obesity was seen in 9.2%. Percentage of adolescents found to be thin was 8.6% and severely thin was 1.2%. Similar findings have been reported by Chhatwal, Verma & Rial (2004) and Kajale et al. (2014). However, the prevalence of adolescent overweight in the present study was higher than the values reported by Mohan et al. (2004) (11.63%) and Bagudai, Nanda & Kodidala (2014) (10.4%). The prevalence of obesity among adolescents was higher than that reported by Mohan et al. (2004) (7.4%).

Figure 3.3 shows that a greater percentage of

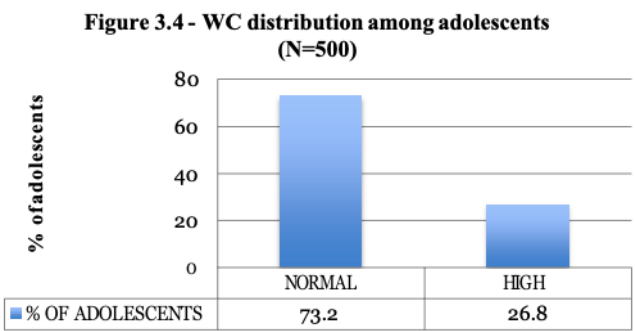


boys was found to be overweight and obese (35.5%) as compared to girls (26.8%), by BMI categorisation. Present study shows that 8.3% girls were thin. It is worth mentioning that when the outcomes of the present study were compared with the results obtained in two other studies, 68.52 % adolescent girls of Varanasi (Choudhary et al., 2003) and 69.3% subjects of Ratnagiri (Patil et al., 2009) were found to be underweight compared to only 8.3 % in the

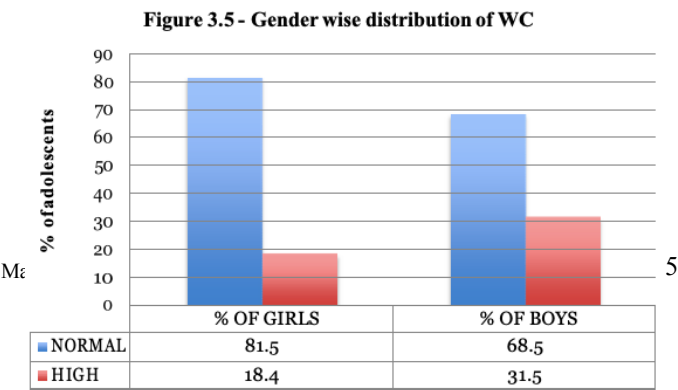
present study subjects. The lower figures of undernutrition in the subjects may be a result of urban habitation, which provides them more access to food and lesser physical activities compared to the above-mentioned rural girls. Out of the girls, 26.8% fell in the category of either overweight or obese. The percentage of overweight and obese girls (26.8%) in the present study was high compared to the Varanasi (Choudhary et al., 2003) and Ratnagiri (Patil et al., 2009) subjects' percentage of overweight and obese. These results indicate that urban adolescents and rural adolescents might have these discrepancies owing to the fact that urban adolescents have a more sedentary lifestyle, along with greater access to junk food.

c) Waist Circumference-

Almost one quarter of adolescents (26.8%) were found to have higher than normal waist circumference (Figure 3.4).



Mean WC for boys (71.2 ± 10.1 cm) was greater than that of mean WC for girls (67.6 ± 9.4 cm). These findings coincide with those of Bahl, Singh & Sabharwal (2015). Figure 3.5, depicts that more boys (31.5%) than girls (18.4%) had high WC. This finding supports the earlier findings of more proportion of boys being overweight and obese. Higher central adiposity is linked to overweight and obesity, as corroborated by Ricardo, Caldeira & Catarina (2009), who reported a strong correlation



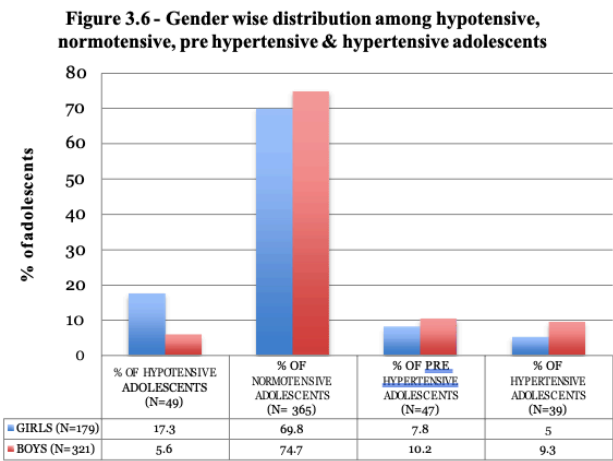
between BMI and waist circumference ($r = 0.90$). Students with excess weight have a higher probability of abdominal obesity (Silva et al., 2011) and the current study confirms that. A significant difference between the WC of girls and boys was found ($t=-3.8$, $p=0.00006$, $p<0.05$).

d) Blood Pressure-

Out of the screened adolescents (N=500), 365 were found to be normotensive, 47 were pre-hypertensive, 39 were hypertensive, and 49 were hypotensive. Prevalence of hypotension was 9.8%, prehypertension was 9.4% and hypertension was 7.8%. Other studies done on schoolchildren have reported the prevalence of hypertension as between 1-3.3% (Baradol et al., 2014; Sugiyama et al., 2007). However, some studies have also reported higher rates of prevalence. Bahl, Singh & Sabharwal (2015), found prevalence of pre-hypertension and hypertension to be 14% and 16.6%, respectively. In a study done by Deshpande (2014), pre-hypertension was noted in 15.9% and hypertension was noted in 13.9% adolescents. These differences in prevalence rates could be due to the different criteria adopted for blood pressure classification as well as basic geographical differences.

Mean SBP for girls was reported to be 104.6 ± 10.3 mm/Hg, while for boys, it was 108.9 ± 10.8 mm/Hg. Mean DBP for girls was 72.4 ± 7.0 mm/Hg and for boys was 73.8 ± 8.2 mm/Hg. Both mean SBP and DBP in the present study are higher in boys, which is supported by Amma, Vasudevan & Akshayakumar (2015). High WC and more prevalence of obesity, as reported above, may be linked to the higher blood pressure values among boys. Figure- 3.6 shows percentage of girls and boys among hypotensive, normotensive, pre hypertensive and hypertensive adolescents 17.3% girls as compared to 5.6% boys were hypotensive, indicating that girls in the present study had more tendencies for low blood pressure. Pre hypertension and hypertension was found to be more among boys.

With hypertension being almost double (9.3%) than that of girls (5%). This may be due to more overweight and obesity found among boys.



II. Comparison of anthropometric indices and family history among hypotensive, normotensive, pre hypertensive and hypertensive adolescents.

a) Family history-

Following table 3.1 gives the information on the family history of blood pressure of normotensive, pre-hypertensive, hypertensive and hypotensive adolescents.

Table 3.1- Family history among hypotensive, normotensive, pre hypertensive & hypertensive adolescents (N=500)

	Hypoten sive adolesce nts (n=49)	Normote nsive adolescen ts (n=365)	Pre hypertens ive adolescen ts (n=47)	Hyperten sive adolescen ts (n=39)
Heredita ry	16 (32.6)	125 (34.2)	17 (36.1)	14 (35.8)
Not hereditar y	33 (67.3)	240 (65.7)	30 (63.8)	25 (64.1)

(Number in parentheses denotes percentage)

It was found that almost one-third of adolescents in all four groups, namely normotensive, pre-hypertensive, hypertensive and hypotensive groups, did have a history of abnormal blood pressure level in their families. However, although slightly high, this trend was more in

pre-hypertensive (36.1%) and hypertensive group (35.8%), compared to the other two groups. Hereditary factors are known to increase the risk of hypertension (Ranasinghe et al., 2015).

b) Age, Weight & Height-

Mean age was found to be the greatest for hypotensive adolescents (14.3 ± 0.7 yrs), followed by normotensive and pre-hypertensive adolescents.

Mean height was found to be the greatest among pre-hypertensive adolescents (161.1 ± 9.1), followed closely by normotensive adolescents.

A positive correlation was found between SBP & height ($r = 0.13$) as well as between DBP & height ($r= 0.17$). Fujita et al. 2010 have also reported an association between height and blood pressure to be significant among adolescents.

Mean weight was found to be highest among the pre-hypertensive group (56.1 ± 14 kg), followed by hypertensive adolescents.

A positive correlation was found between SBP and weight ($r = 0.29$), and a positive correlation between DBP and weight was also found ($r = 0.24$). McGavok et al. (2007) reported a similar finding of overweight in adolescents being associated with elevated SBP.

Following Table 3.2 shows the distribution of mean age, mean weight and mean height across the four groups.

Table 3.2- Mean age (yrs.), mean weight (kg) & mean height (cm) among hypotensive, normotensive, pre hypertensive & hypertensive adolescents (N=500)

	Mean age \pm sd (yrs)	Mean weight \pm sd (kgs)	Mean height \pm sd (cm)
Hypotensive adolescents (n=49)	14.3 \pm 0.7	46.8 \pm 7.8	155.1 \pm 22.9

Normotensive adolescents (n=365)	13.9 ± 0.8	52.6 ± 13.3	160.5 ± 9.6
Pre hypertensive adolescents (n=47)	13.9 ± 0.8	56.1 ± 14	161.1 ± 9.1
Hypertensive adolescents (n=39)	13.3 ± 0.5	55.5 ± 15.9	156.6 ± 8.2

This indicates that while the mean age for hypotensive adolescents is highest, their mean weight and height are the lowest. On the other hand, mean weight and height was highest for pre-hypertensive adolescents, followed by hypertensive adolescents, suggesting that being overweight and obese is likely to increase the risk of developing hypertension.

c) BMI-

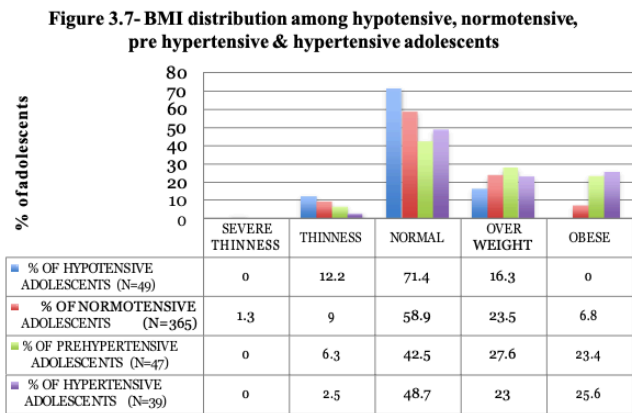


Figure 3.7 suggests that a greater percentage of adolescents falling under overweight or obese categories are pre-hypertensives or hypertensives. Both systolic and diastolic blood pressure were higher in the over-weight and obese group, as reported by Madhusudhan et al. (2016). These results suggest the role of body adiposity in high blood pressure, displayed by adolescents. Also, a higher percentage of thin adolescents are hypotensive. A positive correlation between SBP and BMI ($r = 0.28$) and DBP and BMI ($r = 0.18$) was also observed here. Similar findings have been reported by Dwivedi et al. (2016); Falaschetti et al. (2010); Larsson, Hernell & Lind (2011), and Ribeiro et al. (2003).

Obesity should be treated as an indicator of a pre-disease condition, which may lead to blood pressure abnormalities among adolescents, pre-disposing them to other disease conditions like cardiovascular diseases.

d) Waist circumference –

Hypertensive and pre-hypertensive individuals had the highest mean waist circumference (73.6 ± 12.4 cm, 73.4 ± 9.7 respectively). This clearly indicates the possible role of high central adiposity in elevated blood pressure.

Table 3.3- WC distribution among hypotensive, normotensive, pre hypertensive & hypertensive adolescents (N=500)

Waist Circumference	No. of hypotensive adolescents (N=49)	No. of normotensive adolescents (N= 365)	No. of pre-hypertensive adolescents (N=47)	No. of hypertensive adolescents (N=39)
NORMAL	42 (85.7)	272 (74.5)	27 (57.4)	24 (61.5)
HIGH	7 (14.2)	93 (25.4)	20 (42.5)	15 (38.4)

Number in parantheses denotes percentage

Table 3.3 shows that among those who had a high WC, 42.5 % were pre-hypertensive. Dwivedi et al. (2016) has reported similar results where 38.92% children with high waist circumference had high SBP and 21.6% children with high waist circumference had high DBP. This suggests that a higher WC pre-disposes an adolescent to the risk of developing a high blood pressure.

Corresponding to our earlier findings, a positive correlation was found between SBP and WC ($r=0.30$) and DBP and WC($r=0.18$). Adolescents with high WC, as indicators for central obesity, tend to have higher BP values (Al-Sendi et al., 2003). Zhao et al. (2017) also reported a strong

association between central adiposity and blood pressure among adolescents.

4. CONCLUSION-

Cardiological Society of India (CSI) in 2015 claimed that one in every three Indians was suffering from hypertension, with around 60% not being aware of their condition. Prevention should be started early in life. The present study explores if a relation exists between anthropometric variables, family history and blood pressure profiles of adolescents.

This study establishes a relation between obesity and/or overweight among adolescents and higher blood pressure values. Pre-hypertensive and hypertensive adolescents showed a greater tendency to have higher WC and to be overweight and obese. Familial history was also seen to be associated with the etiology of the disease.

Abnormal blood pressure, be it hypertension or hypotension, is known to be first diagnosed and thought seriously about only in early adulthood. Many adults do not even consider getting themselves checked until early signs start showing up, and then there is no scope for prevention. Being consciously aware about family history and anthropometric risk factors related to abnormal blood pressure can give us the opportunity to examine and/or prevent the condition way before the diagnosis is made.

It is, therefore, important to establish entry points at an earlier age, that is, in adolescence, and assess the risk factors associated with blood pressure irregularities like obesity or even under-nutrition in order to prevent it. This will not only greatly minimise out-of-pocket medical expenditure, but will also improve productivity and the quality of life. We also recommend initiating blood pressure monitoring during adolescence, in order to incorporate remedial measures as early on in life as possible.

References

- About Child and Teen BMI, Retrieved December 11, 2016, from https://www.cdc.gov/healthyweight/assessing/bmi/childrens_bmi/about_childrens_bmi.html
- Al-Sendi, AM., Shetty, P., Musaiger, AO., & Myatt, M. (2003). Relationship between body composition and blood pressure in Bahraini adolescents. *Br J Nutr*, 90(4), 837-844.
- Amma, GM., Vasudevan, B., & Akshayakumar, S. (2015). Prevalence and determinants of pre-hypertension and hypertension among adolescents: a school based study in a rural area of Kerala, India. *International Journal of Research in Medical Sciences*, 3(1), 58-64.
- Anand, T., Ingle, GK., Meena, GS., Kishore, J., & Kumar, R. (2014). Hypertension and Its Correlates among School Adolescents in Delhi. *Int J Prev Med*, 1.
- Bahl, D., Singh, K., Sabharwal, M., and Arora, M. (2014). Anthropometric Indices for the Prediction of Metabolic Syndrome and its Features, among Children and Adolescents. *Indian Journal of Science and Technology*, 7(8), 1066–1077,
- Banker, A., Bell, C., Gupta-Malhotra, M., & Samuels, J. (2016). Blood pressure percentile charts to identify high or low blood pressure in children. *BMC Pediatrics*, 16, 98. <http://doi.org/10.1186/s12887-016-0633-7>
- Baradol, R., Patil, SV., & Ranagol, A. (2014). Prevalence of overweight, obesity and hypertension amongst school children and adolescents in North Karnataka: A cross sectional study. *International Journal of Medicine and Public Health*, 4(3). DOI: 10.4103/2230-8598.137713 260
- Barlassina, C., Lanzani, C., Manunta, P., and Bianchi, G. (2002). Genetics of essential hypertension: from families to genes. *J Am Soc Nephrol*, 13(3), 155–164. doi: 10.1097/01.ASN.0000032524.13069.88.
- Bruce, ZM & Sanaiko, A. (2008). Blood pressure in children, In *Hypertension Primer; The Essentials of High blood pressure*, 4(83), 273–275.
- Carretero, OA., and Oparil, S. (2000). Essential hypertension. Part I: definition and etiology. *Circulation*, 101(3), 329–335. doi: 10.1161/01.CIR.101.3.329.
- Chen, X., & Wang, Y. (2008). Tracking of blood pressure from childhood to adulthood: a systematic review and meta-regression analysis. *Circulation*, 117, 3171–3180.
- Chhatwal, J., Verma, M., & Rial, SK. (2004). Obesity among preadolescent and adolescents of a developing country (India). *Asia Pac J. ClinNutr*, 13, 231-235.
- Chobanian, AV., Bakris, GL., Black, HR., Cushman, WC., Green, LA., Izzo, JL., Jones, DW., Materson, BJ., Oparil, S., Wright, JT., & Rocella, EJ. (2003). The seventh report of the joint national committee on prevention, detection, evaluation, and treatment of high blood pressure: the JNC 7 Report. *AMA*, 289, 2560–2572.
- Choudhary, S., Mishra, C.P., & Shukla, K.P. (2003). Nutritional status of adolescent girls in rural area of Varanasi. *Indian J. Prev. Soc. Med.*, 34 (1&2).
- Deshpande, S., Patel, N., Godbole, V., Champaneri, V., Singh, N., & Patell, R. (2014). Awareness and Approach towards Hypertension Management among General Practitioners of Western

Vadodara. *Journal of Clinical and Diagnostic Research : JCDR*, 8(8), MC05–MC08. <http://doi.org/10.7860/JCDR/2014/8509.4741>

- Duschek, S., & Schandry, R. (2007). Reduced brain perfusion and cognitive performance due to constitutional hypotension. *Clin Auton Res*, 17, 69-76.
- Ejike, C., & Ugwu, C. (2010). *Hyperbolic relationship between blood pressure and body mass index in a Nigerian adolescent population*. Webmed Cent Hypertens, 1.
- Falaschetti, E., Hingorani, AD., Jones, A., Charakida, M., Finer, N., & Whincup, P. (2010). Adiposity and cardiovascular risk factors in a large contemporary population of pre-pubertal children. *Eur Heart J*, 31, 3063-3072.
- Falkner, B., Sherif, K., Michel, S., & Kushner, H. (2000). Dietary nutrients and blood pressure in urban minority adolescents at risk for hypertension. *Arch Pediatr Adolesc Med*, 154, 918–922.
- Fujita, Y., Kouda, K., Nakamura, H., Nishio, N., Takeuchi, H., & Iki, M. (2010). Relationship between height and blood pressure in Japanese school children. *PediatrInt*, 52(5), 689-693.
- Hildrum, BR., Mykletun, A., Stordal, E., Bjelland, I., Dahl, AA., & Holmen, J. (2007). Association of low blood pressure with anxiety and depression: the Nord-Trøndelag Health Study. *J Epidemiol Community Health*, 61, 53-58.
- Khadikar, VV., & Khadikar, AV. (2004). Prevalence of obesity in affluent schoolboys in Pune. *Indian pediatr*, 41, 857-858.
- Larsson, C., Hernell, O., & Lind, T. (2011). Moderately elevated body mass index is associated with metabolic variables and cardiovascular risk factors in Swedish children. *Acta Paediatr*, 100, 102-108.
- Lozano, R., Naghavi, M., Foreman, K., Lim, S., & Shibuya, K. (2012). Global and regional mortality from 235 causes of death for 20 age groups in 1990 and 2010: a systematic analysis for the Global Burden of Disease Study 2010. *Lancet*, 380, 2095–128.
- Lurbe, E., Torro, I., Alvarez, V., Nawort, T., Paya, R., Redon, J., & Steessen, AJ. (2005). Prevalence of persistence, and clinical significance of masked hypertension in youth. *Hypertension*, 45, 493–498.
- Madhusudhan, K., Betham, R., & Jampana, V. (2017). Study of blood pressure profile and correlation of hypertension with age, sex, anthropometric measurements (weight, height, body mass index), socio economic status and hereditary factors in school going children. *Int J Contemp Pediatr*. 4(1), 19-27. DOI: <http://dx.doi.org/10.18203/2349-3291.ijcp20164036>
- Marwaha, RK., Tandon, N., Singh, Y., Aggarwal, R., Grewal, K., & Mani, K. (2006). A study of growth parameters and prevalence of overweight and obesity in school children from Delhi. *Indian pediatr*, 43, 943-952.
- McGavock, JM., Torrance, B., McGuire, KA., Wozny, P., & Lewanczuk, RZ. (2007). The relationship between weight gain and blood pressure in children and adolescents. *Am J Hypertens*, 20(10), 1038-1044.
- Moura, AA., Silva, MA., Ferraz, MR., & Rivera, IR. (2004). Prevalence of high blood pressure in children and adolescents from the city of Maceió, Brazil. *J Pediatr (Rio J)*, 1, 35-40.
- Naha, NK., John, M., & Cherian, VJ. (2016). *International Journal of Contemporary Pediatrics*. 931-38.

- Patel, V., Chatterji, S., Chisholm, D., Ebrahim, S., Gopalakrishna, G., & Mathers, C. (2011). Chronic diseases and injuries in India. *Lancet*, 377, 413-428.
- Patil, S. N., Wasnik, V., & Wadke, R. (2009). Health problems amongst adolescent girls in rural areas of Ratnagiri district of Maharashtra, India. *Journal of Clinical and Diagnostic Research*, 3, 1784-1790.
- Raj, M., Sundaram, KR., Paul, M., Deepa, AS., & Kumar, RK. (2007). Obesity in Indian children: time trends and relationship with hypertension. *Natl Med J India*, 20, 288-293.
- Ranasinghe, P., Cooray, DN., Jayawardena, R., & Katulanda, P. (2015). *The influence of family history of Hypertension on disease prevalence and associated metabolic risk factors among Sri Lankan adults*. BMC Public Health.
- Reddy, D., Kushwaha, AS., Kotwal, A., Basannar, DR., & Mahen, A. (2012). Study of blood pressure profile of school children 6e15 years in a rural setting of Maharashtra. *Medical Journal Armed Forces India*, 68, 222-225.
- Ribeiro, J., Guerra, S., Pinto, A., Oliveira, J., Duarte J., & Mota, J. (2003). Overweight and obesity in children and adolescents: relationship with blood pressure, and physical activity. *Ann Hum Biol*, 30(2).
- Ricardo, GD., Caldeira, GV., & Catarina, A. (2009). Prevalence of overweight and obesity and adiposity central indexes among school-aged children in Santa Catarina, Brazil. *Rev. bras. Epidemiol*, 12.
- Shieh, HH., Gilio, AE., Barreira, ER., Troster, EJ., Ventura, AMC., Goes, PF., Souza, DC., Sinimbu, JM., & Bousso (2012). A Pediatric hypotension: quantification of the differences between the two current definitions. *Intensive Care Med*, 17.
- Silva, D. A. S., Pelegri, A., Silva, J. M. F. de L. e, & Petroski, E. L. (2011). Epidemiology of Abdominal Obesity among Adolescents from a Brazilian State Capital. *Journal of Korean Medical Science*, 26(1), pp.78–84. <http://doi.org/10.3346/jkms.2011.26.1.78>
- Srinath, K., Shah, B., Varghese, C., & Ramadoss, A. (2005). Responding to the threat of chronic diseases in India. *Lancet*, 366, pp.744–1749.
- State of the World's Children. (2011). Retrieved December 10, 2016, from http://www.unicef.org/publications/files/UNICEF_SOWC_2016.pdf
- Sugiyama, T., Xie, D., Graham-Maar, RC., Inoue, K., Kobayashi, Y., & Stettler, N. (2007). Dietary and Lifestyle Factors Associated with Blood Pressure among U.S. Adolescents. *Journal of Adolescent Health*, 40, 166–172.
- Sundar, JS., Joseph, S., Adaikalam, M., Parameswari, S., Valarmarathi, S., Kalpana, S., & Shantharam, D. (2013). Prevalence and determinants of hypertension among urban school children in the age group of 13- 17 years in, Chennai, Tamilnadu. *IOSR Journal of Dental and Medical Sciences*, 8, pp. 14-20.
- Tanaka, H., Yamaguchi, H., Matushima, R., & Tamai, H. (1999). Instantaneous orthostatic hypotension in children and adolescents: a new entity of orthostatic intolerance. *Pediatr Res*, 46, 691–696.
- Verma, M., Chhatwal, J., & George, SM. (1994). Obesity & hypertension in children. *Indian pediatric*, 31, pp.1065-1069.

Wharton, W., Hirshman, E., Merritt, P., Stangl, B., Scanlin, K., & Krieger, L. (2005). Lower blood pressure correlates with poorer performance on visuospatial attention tasks in younger individuals. *BiolPsychol*, 73, pp.227-234.

Understanding ways to establish and sustain school-based professional learning community of teachers in the context of assessment reform

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Abstract:

This study explores ways in which a school-based professional learning community of teachers can be established for implementing an assessment reform ‘Continuous and Comprehensive Evaluation’ in the school context. Specific schemes are delineated through workings in a school, using a case study approach. It is reported that merely establishing professional learning communities is not enough, rather a constant focus on sustaining the momentum set off is necessary, hence, particular approaches for the same have been identified. It is envisaged that proactive leadership, which is open to innovations and amenable to change, can foster avenues for continuous professional development of teachers to bring about a change in the classroom practices.

Keywords: *Professional learning community, Formative Assessment, Continuous and Comprehensive Evaluation, Assessment reform*

Introduction

Change in the schooling systems, in order to improve students’ learning and their outcomes, is a common feature across the world (Bansal, 2017). Priestley (2005) notes that any change is unlikely to be successful unless there exists a strong sense of collaboration among the staff members (teachers as well as administrators), committed to the vision of change for betterment of students’ learning. In line with this view, this article examines the means of establishing a School-based Professional Learning Community (SBPLC, henceforth) for implementing an assessment reform ‘Continuous and Comprehensive Evaluation’ in school settings. Along with this, specific ways to sustain SBPLC are identified through the workings of a school involved in the process of assimilation of the reform process.

School based professional learning community

School based professional learning community is described as a collaborative professional learning community of all the professionals working in a school for improving students’ learning (DuFour & Eaker, 2002). In a SBPLC, teachers and administrators of the school “work collaboratively to reflect on their practice, examine evidence about the relationship between practice and student outcomes, and make changes that improve teaching and learning” (McLaughlin & Talbert, 2006, p.4).

Inquiry inherent to the PLC involves the following phases- (i) planning: setting goals, actions, strategies (ii) evidence collection; (iii) interpretation: interpreting the gap between achieved and intended outcomes; (iv) utilisation: implementing interventions to close the gap; (v) evaluation: assessing the effectiveness of the intervention (Birenbaum, Kimron, Shilton & Shahaf-Barzilay, 2009).

Hord (2004) delineated the essential characteristics of a PLC, which entail: (i) shared values and mission which provide an

“undeviating focus” (Hord, 2004) on goals to be pursued and aid in “ethical decision making” (Louis, Kruse & Bryk, 1995); (ii) members sharing a collective responsibility for students’ learning by promoting “reflective dialogue” (Louis et al., 1995) on educational issues, encouraging all to be fair to their teaching practices; (iii) provision of constant avenues of engagement in reflective professional inquiry on educational issues leading to “deprivatisation of practice” (Louis et al., 1995) by frequent examination of teachers’ classroom practices, seeking new knowledge (Hord, 2004), platforms for tacit knowledge constantly being converted into shared knowledge through interaction (Fullan, 1993); and applying new ideas and information to problem solving; (iv) by encouraging collaboration that goes beyond the superficial exchanges of help, support, or assistance (Louis et al., 1995), and involves feelings of interdependence for a shared purpose.

This article, while drawing from a case study of an Indian senior secondary school, describes how changes in school assessment policy, which included introduction of Continuous and Comprehensive Evaluation, were successfully incorporated by establishing and sustaining school-based professional learning communities of teachers. Viewing the data through the theoretical lens described above, I intend to unpick the nuances entailed in establishment, regulation, and sustaining professional learning communities.

The national context

Schools in the Indian educational system have adopted a traditional, high-stake perspective towards educational assessment, largely borrowed from its British colonisers (Nawani, 2015), that “regards “sameness of treatment” and “remoteness of the examiner from the learner assessed” as being central to successful evaluation of learning” (p.38). In common parlance, they are called board examinations. National Curriculum Framework (NCF, 2005) and Position Paper on Examination

Reform (NCERT, 2006) recommended changes in examination structure and introduction of varied modes of pupil assessment, enhanced reporting of performance, and variability in time of taking assessment to suit learners’ needs, styles and paces of learning.

Consequently, Central Board of Secondary Education introduced Continuous and Comprehensive Evaluation scheme (CCE, henceforth) as an examination reform, with effect from October 2009 in class IX, in all its affiliated schools (CBSE, 2014). Through CCE scheme, formative assessment was emphasised and the details are delineated in the next section.

Formative Assessment: Major plank of CCE

William and Thompson (2007) have identified three processes of teaching and learning involved in classrooms practising formative assessment:

- Establishing where the learners are in their learning;
- Establishing where they are going; and,
- Establishing what needs to be done to get them there.

They conceptualised the following as five key strategies of formative assessment: (i) Clarifying the learning intentions and criteria of success, (ii) engineering effective classroom discussions and other learning tasks that elicit evidence of student understanding, (iii) providing feedback that moves learner forward, (iv) activating students as instructional resources for one another, (v) and, activating students as the owners of their own learning. Brookhart (2014) added student goal setting to the list of William and Thompson’s strategies.

The ways in which schools worked towards assimilation of change within their contexts is studied here, using a case study of a school as described in the following section.

Methodology

Case study seemed to be the appropriate tool as it enables the researcher to “describe actions within a social setting and invites, rather than tries, to control the possibility of a rich array of variables” (Holliday, 2007, p.4). Data was collected using non-participant observation of the school and classroom practices; parent-teacher meetings, and SBPLC meetings in the year 2011-12. It was coupled by semi-structured interviewing of school personnel (Principal, Heads, Secondary grade teachers), two focused group discussions with students; and document analysis of assessment tasks, school academic planners, and teacher diaries.

The School

Greenjungle school is a large senior secondary school, with over 1100 students and 50 teaching staff. The school building is located in the high-end suburbs of the New-Delhi city. Students usually belonged to upper class high-income urban society. The school had high quality sports, music and many other co-curricular activities. School’s mission statement “every child can be a winner” pointed towards a firm belief held by the school personnel in a child’s potentialities to excel in all walks of life.

Hierarchically, the school was headed by the Principal- Mrs. Meena, who was then subordinated by two supervisory heads – academic and cultural—for the entire school. The initiative to reconsider the ways in which teachers assess children’s work, subsequent to introduction of CCE, was taken by the management and teachers collaboratively. External reform developed in a dialectical fashion, a dynamic two-way relationship between the initiative and the context of enactment. Students’ opinion vis-a vis the initiative was recurrently catered to and discussed in the meetings. Parents’ take on reform initiative was constantly sought, through frequent parent- teacher meetings. Further details on how SBPLC was established and used for the

incorporation of CCE are delineated in the upcoming sections.

Establishing SBPLC

The observational data collected from the school provided an evidence of successful assimilation of CCE reform. It was reported by school leadership that established SBPLC to incorporate assessment reform into their context. Below, I delineate some of the notable ways in which SBPLC was established by the school.

Proactive Leadership and trust building

School Principal, Mrs. Meena, reported that many of the formative assessment strategies had already been in use in the school although they were not being explicitly practised under the aegis of formative assessment. Such practices provided a social context for ready acceptance of the reform initiative among the teachers. The school’s Principal observed:

CCE is not new for us, we have already been assessing students continuously and comprehensively since ages but yes now we have got an official sanction for our practices... certainly few changes are there, such as, nature of reporting to parents etc.(Meena, Greenjungle school, 2011).

She observed that, in order to bring change, it was essential to improve the levels of dialogue, discussion and feedback essential to the reform initiative. She situated professional learning community at various levels –grade level, subject level and others, to encourage constant pondering over academic issues. She made a genuine effort to attend most of the meetings, remained open to innovation, was receptive to ideas and amenable to change. The Principal’s attitude was responsible for fostering a cultural shift in school practice, wherein all practitioners are focused on the achievement of reform.

Structural Changes and Focus on Classroom Practice

The school worked towards reform initiative by focusing directly on classroom practices. They

incorporated a few structural and ideological changes in their practices to make the reform initiative a success, such as:

- Reducing emphasis on written tests and encouraging oral and informal classroom-based feedback;
- Introducing variety of assessment tasks and tools to suit learners' needs, styles and paces; and
- Increasing interactions with parents to encourage reflective dialogue and make them partners in the change process.

In general terms, the school worked towards making the aims and criteria of assessment reform initiative explicit to one and all involved in the process.

Professional Development

Though the school was committed to the reform process, yet it had not been possible without constant support provided through professional development avenues. Principal Meena constituted a structured plan for professional development of her teachers. Subject-based experts, resource persons and other online opportunities were introduced for teachers to gain an exposure of cutting-edge tools and technologies. Following this, they were made to present it at various platforms and show evidence of how the innovations were being used to change the classroom practices, with respect to the reform initiative.

The efforts of establishing SBPLC were simultaneously coupled with provisions for their sustainment, which are discussed in the next section.

Sustaining professional learning communities

Upon establishing school-based PLCs, another challenge in front of the administration was to sustain the momentum for collaboration in SBPLCs. This was achieved in a number of ways.

First, *structural changes* made by the school administration were supportive in decreasing the workload of students as well as the teachers and increased their learning. This was achieved through collaborative planning done by the teachers at the beginning of the session. SBPLC meetings were supported by various subject-based experts in which ways to innovate and simultaneously reduce workload were charted collaboratively. While elucidating the nature of planning entailed, a teacher noted:

“We design assessment tasks in such a way that students were involved in differing assessment contexts in different subjects at a particular point of time. For instance, in the month of April, physics teacher would do a pair and share activity, biology teacher would call a resource person and chemistry teacher would do concept mapping with children of the same class. In this way, there would be no repetition and students would learn to demonstrate their understanding by multiple modes at the same time”. (Science Teacher, Greenjingle School, 2012)

Along with this, the school had a “no written homework” policy. Pedagogical planning entailed spaces for students to complete their assignments and other forms of academic work within the classrooms. Moreover, they were given time to explore the library, make projects and models and prepare for quizzes etc. within their school timings. In this way, students were engaged in productive academic work throughout the day and were not made to carry loads of homework back to their homes.

Similarly, with formative assessment being an integral aspect of CCE, there was a *focus on classroom discussion and informal feedback*. It led to reduced stress on recurrent students' testing and marking, which meant condensed workload for teachers.

Now, I don't carry loads of papers to home for checking rather I use that time to read, plan and innovate....I mean academic work has gained

priority over clerical work...(Social Science Teacher, Greenjingle school, 2012)

And now the feedback is spontaneous...I mean the idea of the feedback has always been to report to students their errors and adopt an appropriate corrective measure.....but... when we used to do it by marking tests we somehow reduced student's error to a numerical value which does not communicate the problem. ... While with informal feedback, teacher can diagnose the problem on the run and provide feedback on the run...continuity is there (Language Teacher, Greenjingle school, 2012)

In this manner, structural changes and ideological changes enabled a sharpened focus on students' learning, which subsequently increased their achievement. One of the teachers observed:

We are doing this not just for the policy compulsions, we are doing it for the kids (Mathematics Teacher, Greenjingle school, 2012) pointing out that student satisfaction and learning were the major focus driving change.

These changes at the classroom level energised students, which consequently enhanced teacher's satisfaction and increased engagement in SBPLC meetings. Teachers reported:

I can see them enjoying talking with each other, taking collective decisions, and working as a group....I think they enjoy me being one of them and they becoming leaders of the class.....you see....a kind of reversal of roles somehow giving them.....unnn..... increased motivation...(Mrs. Meena, Principal, Greenjingle school, 2011)

This increased level of motivation among students was nevertheless a source of inspiration for teachers.

Second, *constant provision of academic support* provided by collaboration in SBPLCs, accompanied with a strong sense of professional trust expressed by the administration in the capacities and abilities of their teachers, created a positive wave towards the initiative. This eventually sustained the momentum of reform in school--based PLCs and the school.

Implications for practice

Bansal (2017) observed that the establishment of SBPLC has tremendous power to empower teachers as assessment leaders. SBPLCs work towards developing positive teachers' mental models – the “schemas” or maps which they draw on to guide their professional practice, (Seashore, Anderson & Riedel, 2003) which is quintessential for the successful assimilation of assessment reform. It is elaborated through this paper that for the successful establishment and sustainability of PLCs in the school context, school management should:

- Ensure constant academic support through continuous professional development opportunities;
- Provide flexibility and autonomy to teachers to adapt their practices according to their group of learners;
- Express professional trust in its professionals;
- Make arrangements for infrastructure supportive of reform;
- In addition, foster parent-school ties.

Thereby, enabling teachers to become “assessment leaders” who could carry forward the reform intelligently, supported with a deep conviction of its benefits to the student community.

References:

Bansal, G. (2017). School-based professional learning communities: Empowering teachers as assessment leaders in the change context. In I. H. Amzat, and N. P. Valdez (Eds.) *Teacher Empowerment toward Professional Development & Practices: Perspectives Across Borders*. Pp. 255-268, Springer: Singapore. ISBN No. 978-981-10-4150-1, DOI- 10.1007/978-10-4151-8.

Birenbaum, M., Kimron, H., Shilton, H. & Shahaf- Brazila, R. (2009). Cycles of inquiry: Formative assessment in service of learning in classrooms and in school-based professional learning communities, *Studies in Educational Evaluation*, 35, 130-149.

Birenbaum, M., Kimron, H. & Shilton, H. (2011). Nested contexts that shape assessment for learning: School-based professional learning community and classroom culture, *Studies in Educational Evaluation*, 37, 35-48.

Brookhart, S. (2014). *The use of assessment to support learning in schools*. Paper Presented to Central Board of Secondary Education, India and Australian Council of Educational research Interantional Educational Conference, New Delhi, India. Retreived from <http://www.acer.edu.au/documents/Susan.Brookhart.pdf>

Central Board of Secondary Education (CBSE). (2014). *CBSE CCE Report*. New- Delhi.

Cizek, G.J. (1995). The Big Picture in Assessment and Who Ought to Have It, *Phi Delta Kappa International*, 77 (3), 246-249.

Cuban, L. (1998). How schools change reforms: redefining reform success and failure, *Teachers College Record*, 99 (3), 453-477.

DuFour, R., & Eaker, R. (2002). Professional learning communities at work: Best practices for enhancing student achievement. Bloomington, IN: National Educational Service.

DuFour, R. 2004. What is "Professional Learning Community"? *Educational Leadership*, 1-6.

Fullan, M. (1993). *Change forces: probing the depths of educational reform*. London: Falmer Press.

Harris, A., & Jones, M. (2010). Professional learning communities and system improvement, *Improving Schools*, 13 (2), 172-181.

Heritage, M. (2010). *Formative Assessment: Making It Happen in the Classroom*. California, USA: Corwin.

Holliday, A. (2007). *Doing and Writing Qualitative Research*. London, Thousand Oaks, New Delhi: Sage Publications.

Hord, S. (2004). Professional learning communities: An overview. In S. Hord (ed), *Learning together, leading together: Changing schools through professional learning communities*. New York: Teachers College Press.

Levin, B. (1998). An epidemic of education policy: (what) can we learn from each other?, *Comparative Education*, 34(2), 131-141.

Louis, K.S., Kruse, S., & Bryk, A.S. (1995). Professionalism and community: What is it and why is it important in urban schools? In K. S. Louis, S. Kruse & Associates (1995) *Professionalism and community: Perspectives on reforming urban schools*. Long Oaks, CA: Corwin.

McLaughlin, M.W., & Talbert, J.E. (2006). *Building school-based teacher learning communities: Professional strategies to improve student achievement*. New York: Teachers College.

National Concil of Educational Research and Training (NCERT). (2005). *National Curriculum Framework*, (YashPal, Chairman). New Delhi: NCERT.

NCERT. (2006). *Position Paper National Focus Group on Examination Reforms*. New- Delhi: NCERT.

- Nawani, D. (2015). Rethinking assessment in Schools. *Economic and Political Weekly*, L (3), 37-42.
- Priestley, M. (2005). Making the most of *Curriculum Review*: some reflections on supporting and sustaining change in schools, *Scottish Educational Review*, 37 (1), 29-38.
- Priestley, M., & Sime, D. (2005). Formative assessment for all: a whole-school approach to pedagogic change, *The Curriculum Journal*, 16 (4), 475-492.
- Rosenholtz, S.J. (1989). *Teachers' workplace: The social organization of schools*. New York: Longman.
- Seashore, K.R., Anderson, A.R. & Riedel, E. (2003). Implementing arts for academic achievement: The impact of mental models, professional community and interdisciplinary teaming. Paper presented at the Seventeenth Conference of the International Congress for School Effectiveness and Improvement, Rotterdam, January.
- Shephard, L. (2000). The Role of Assessment in a Learning Culture. *Educational Researcher*, 29(7), 4-14.
- Stenhouse, L. (1975). *An introduction to curriculum research and development*. London: Heinemann.
- Stoll, L., Bolam, R., McMahon, A., Wallace, M. & Thomas, S. (2006). Professional Learning Communities: A Review of the Literature, *Journal of Educational Change*, 7, 221-258.
- Vygotsky, L. (1978). *Mind in society*. Cambridge, MA: Harvard University Press.
- Wenger, E. (2000). Communities of practice and social learning systems. *Organization*, 7 (2), 225-246.
- Wenger, E., McDermott, R., & Snyder, W. (2002). *Cultivating Communities of Practice*. Harvard Business School Press: USA.
- William, D., & Thompson, M. (2007). Integrating assessment with instruction: what will it take to make it work?. In C.A. Dwyer (ed.) *The Future of Assessment : Shaping Teaching and Learning* (53-82). Mahwah: Lawrence Erlbaum Associates.

Lacuna of representation of disability in curriculum

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Abstract

It is conventionally believed that a student's attitudes, opinions and beliefs are in many ways shaped by the curriculum. When representation is held important in art forms, trivial and serious, then the lack of it in what is the forming narrative of the outer world can cause the 'excluded' to become the 'other'. Talking about curriculum, especially in the Indian context, the differently abled individuals have negligible or no mention. This lacuna in representation causes two-fold repercussions. Firstly, the mainstream students read texts with no mention of the disabled individual that causes them to treat children with special needs as aliens, when faced with in an inclusive classroom. Additionally, when a child with special needs reads the text, then he/she forms the image of their own self in relation to the perceived alienated and hence ostracised viewpoint.

Through this paper, I want to raise certain questions. How can we claim inclusion and change when we continue to be regressive, even when it comes to handling the issue through curriculum? How can we revert the attitudinal barrier in inclusion if we can't ensure inclusion in theory?

Keywords: *Ideology; inclusion; representation of disability; self-image; exclusion in textbooks; idea of 'other'*

In the twenty first century, the stakeholders of inclusion talk about bringing inclusion on all platforms by implementing acts and policies, by bringing about a change in the way society looks at and treat the differently abled in the society, and by creating a barrier-free ergonomic environment for them. We are stuck on a page where we all know what should be done but we are not aware of the methods by which all of that should be done. In this paper, I would talk about and explore these issues.

The reason a person behaves in a certain manner in any given social situation can be traced to his/her ideological foundations. Those ideologies are formulated over the years when the individual looks at and processes images of people, cultures, races, abilities etc. through various sources. How are images and concepts formed in the brains of young children? They look at the world still unknown to them through the spectacle of stories. Their image of self and the

image of others is formed when they see and scrutinise characters in a story. In infancy, when children haven't yet formed an image of self, the representation of different characters in stories has a huge impact on their perspective of the world. They carry this perspective all their life and apply it in real life social situations. Thus, when representation in stories act as building blocks of ideologies for children, it becomes extremely important how things are represented.

Indian society is flooded with people living as marginalities. The differently abled strata of our society has forever struggled and is struggling with living as the marginal among the marginalities. They are mistreated and ignored on various levels, including the areas of literature and curriculum. There is a huge lacuna of representation of the disabled not only in young adult literature, but also in children's books that are taught as part of curriculum in schools. The classroom constitutes the normative

conventional sanctum, where we are taught what is taken to be de facto correct. The importance of taking curriculum as a point of analysis rather than pop culture, which is the usual object of analysis for culture, lies in here. Pop culture is dynamic and unfettered, while curriculum could represent everything from ruling factions to dominant cultural, academic and sociological outlooks at the time of creation. But curriculum maintains a higher status in terms of the authority that it has. Two-pronged authority works in curriculum. On one side, we have the teacher, the one who holds more knowledge, and as a corollary, is at a superior position. Convention dictates depending on her/him for knowledge. On the other hand, we have the authority of the written word, which is considered to be the final word on knowledge for children. Supposed to represent the best minds of antiquity and contemporaneity, the written word is infallible. Curriculum would not be so important if it only dealt with abstract knowledge or only with sciences, and not with the holistic approach which covers everything and fashions itself as the introduction to the world.

The combination of its nature, along with the authority it claims, makes it essential for it to include all narratives. The exclusion of any would lead it to becoming the other and 'the alien'.

One of the most influential forms of representation are books, stretching right from children's picture books to the literary texts they read as they grow up. The bright images in picture books and the zany characters hold the attention of infants like nothing else. If these images are not handled correctly, then children can have confused ideas when faced with real life situations. One would often find extremely stereotypical images portrayed in these picture books. The child gets assured that a man must have a muscular body, white complexion and macho disposition, while a woman must have a thin figure, pointy features and long hair. The

representation of the entire human kind, in these books, ends right there and it leaves no space for the child's imagination to accept any deviation from these images. One can rarely find any disabled character portrayed in any picture book. This can have a dual negative impact in children. Imagine the distress felt by a differently abled infant at encountering no story that has characters which look even remotely like him. He is bound to feel inconsequential and an 'outsider' in the world of all able-bodied humans. Also imagine the confusion in the mind of a mainstream student who looks at a disabled person in the street or in the school corridor, but he has never seen any creature like him on any platform presented to him. For him, that disabled child in the corridor is someone weird, someone to be afraid of.

Picture books act as the first form of media which are exposed to the young minds, hence, they have a huge impact on their understanding of the outer world. They understand their status and place in that world through that media alone. It is important that stories and pictures be inclusive and children of all backgrounds, ethnicities, races and abilities be represented right in all forms. Symbols and images speak a great deal about how the society looks at something. This can be called the "symbolic representation" of a phenomenon.

An individual's concept of self is modelled on how his kind is represented in media, in art and literature. A child will always feel abnormal unless he sees his kind being represented somewhere. It is important for a differently abled child not only to be represented, but to be represented properly as representations hold the power to make or break the child's self-confidence. Since they do not see characters that look like them, low self-esteem may develop if these stories do not validate their positive space in the outer world. We can postulate that stories act like windows and mirrors for children. The way they reflect on themselves by looking in the mirror is the same way they reflect on

themselves through these images in the stories. In a similar way, these stories act like windows to expose to them the outer world.

Sara Ackerman in her article titled “mirrors for my daughter’s bookshelf” published in 2017 stressed that

“Books can be windows into worlds previously unknown to the reader; they open like sliding glass doors to allow the reader inside. But books can also be mirrors. When books reflect back to us our own experiences, when scenes and sentences strike us as so true they are anchors mooring us to the text, it tells readers their lives and experiences are valued. When children do not see themselves in books, the message is just as clear. Books can be windows into worlds previously unknown to the reader; they open like sliding glass doors to allow the reader inside. But books can also be mirrors. When books reflect back to us our own experiences, when scenes and sentences strike us as so true they are anchors mooring us to the text, it tells readers their lives and experiences are valued. When children do not see themselves in books, the message is just as clear.”

In the need to make a differently abled child feel not like an afterthought, stories they read in the curriculum need to be such that represent their kind equitably through the picture and the text. Stories need to make them feel unapologetic about their condition (something over which they already have no control).

Unless the stories taught in schools represent the so called ‘other’, it would be impossible to illuminate the differences otherwise ignored. Only through representations can we make the ‘ostracized feel visible’. From the very age of infancy, when their concept of self-image and self-esteem is still in making, the stories which play a huge impact on their outlook need to be such that humanize their condition rather than alienating it.

This is just one side of the coin. The problem is not just caused to the disabled child looking at

exclusive picture books. A bigger problem arises when mainstream students, who not just constitute a major portion of the school population but are also the building blocks of future cultures, do not see inclusivity represented. Right from infancy, the images they come across are of able bodied human beings. As a result, when a mainstream child does come across a disabled body in real life, he treats that person as an ill fit, an alien and ‘other’. This ‘otherisation’ is implanted in his/her brain from the very beginning. Subsequently, when inclusive classroom setup is introduced in the school, the mainstream students feel compelled to mistreat and dehumanise the special child due to the ideologies imbibed in their psyche indirectly by the curriculum itself.

Let us now talk about the chapters that children read and how the differently abled is treated in those texts. Firstly, one barely comes across a chapter which has any normalised disabled character. Here, I am not only talking about the literary chapters, but other subjects, which do not primarily impart its pedagogy through tales, lack inclusion as well. Let us take the example of mathematics. How many questions do we come across where the objects mentioned are those that are used by differently abled people? One would easily find questions like,

“If Ram had 7 chairs and Sita had 8 tables, then how many objects would they have in total?” but imagine the impact on young brains when they would see questions like “If Ram had 7 wheel-chairs and Sita had 8 canes, then how many objects would they have in total?”

When students read about inclusive objects in their curriculum, then it would not be difficult to remove systemic barriers and negative attitudes from the society. How are we to build an inclusive classroom environment when the curriculum itself fails to represent those whom we wish to include in the classroom? We use stories of the curriculum to impart moral lessons, but can we not use them to normalise the

disabled body in the young minds of children? Imagine the impact on the social behavior of a mainstream student when she/he reads a story about a disabled character that does not need to be sympathized with. Imagine the boost in self-confidence a disabled child would have when her/his kind become the protagonist of stories being taught in the classroom. "If she can see it, she can be it." Having many examples that they can relate to would help in removing many dilemmas from their life. A child's early experiences, including the time spent on consuming knowledge in the classroom, shape 'what they imagine to be possible.' Basically, students determine what they 'can be' based on the references and examples around them.

Because of insufficient stories where the protagonist is a disabled being, the differently abled children as well as the mainstream students suffer. Childhood is the age when an individual starts having fictional role models. Alienism and heroism as a concept is cultured through those stories. If students could read about a fictional character that is differently abled but is struggling in life and is rather the hero of the story, then automatically, the chapter would promote healthy social and emotional behavior. "The subtle messages the differently abled children get from these texts (which have no character that they can relate to) are that their kind of people don't matter and that their experiences didn't matter." What they see in the books shapes the expectations for themselves and for others. Even the rarest stories found in text books which have a disabled character either present the tale of the character in a struggle narrative or a tragic narrative. "The fictional space or position accorded to such characters is never the same as that of other standard characters. They are presented antithetically or as derivatives to the normal characters surviving at the periphery of the world of the normal." The character is either dealing with a plethora of miseries in his life or has gone through a lot of trouble to finally make a life for himself that he

deserved. "Disabled characters have always played the second fiddle to the able-bodied characters unless the story is a biography or the world of fiction, disabled characters find their justification in accentuating the normality and correctness of the able-bodied characters by demonising or misrepresenting their abnormality or deformity, thereby reducing them as stereotypes instead of normal human beings. Such negative depictions of disabled characters in literature remain etched in our memory long after we forget the storyline". According to Bowe: "Our memories of these and other characters often become indelible, impervious to any experiences we may have with disabled individuals in real life. Somewhere in the back of our minds we associate disabilities with sin, evil, and danger" (1978: 109).

"On the face of it" is one of the rare stories, which has the protagonist as a disabled character, that students of C.B.S.E. board read as a part of their English curriculum. The story highlights the problems of disabled people and how actions and words towards them can alter their problems. Though the disabled character is shown to be self-reliant and independent, yet he is shown to be ostracized on the social platform. Children shy away from him and elders don't wish for their kids to be playing in his lawn. Even towards the end of the story, the only person who wanted to be a part of his life was Derry, a boy of 14, with a burnt face, who is also leading a secluded life. Even though Mr. Lamb was a very social and jovial being, he craved company and was called names by children. Somehow, Derry, who felt inferior in his life could only find solace in the company of someone disabled; someone who did not lead the life of people with high status in society. The story ends on a sad note, killing Mr. Lamb in a tragic accident and leaving Derry in a state of continuing isolation. In this story, somebody as gregarious as Mr. Lamb had to live his entire life as a tragedy and even met a tragic end to his life. The only source of companionship that was on

its way to Mr. Lamb's life could not meet its destination, hence, narrating the tale of the disabled protagonist as a tragic narrative.

Another example of the disabled character, seen as somebody who has a lower status in the social hierarchy, would be that of Mr. Rochester in *Jane Eyre*. The novel written by Charlotte Bronte is enjoyed in the curriculum by many readers. Towards the end of the novel, Mr. Rochester goes blind, and at that point in the story, the fates start changing for the two protagonists. Earlier in the novel, when the differences between the two characters were as wide as the corners of a river, Mr. Rochester was unable to make Jane an intrinsic and constant part of his life. Only when he lost his sight could they finally unite in the novel. It seems like the huge differences, such as that regarding age and wealth, were not the actual hurdles in their relationship. When Jane gets to know of Rochester's status, she calls him her 'equal'. What is problematic here is that it is only when he lost one of his abilities did Jane consider him to have been lowered down in hierarchy to the extent that he could be seen as an equal of someone who was doubly marginalized in that society. At that point, his wealth and other possessions took a back step and the only thing dominant enough to pull him down in the hierarchy in the society was his disability.

Broadly speaking, disability is very rarely portrayed as what it should be. The disabled are either portrayed as evil, or as people who have an excuse to get away with everything because of their disability or disability is seen as something magical. It is seen as a curse, in spite of which, the character is able to person something so normal that it appears to be supernatural. "At one extreme, characters like Tiny Tim are objects of pity, whose disabilities make them seem saint like. At the opposite extreme, Shakespeare's Richard III's genetic

condition can either symbolize or justify his evil acts."

The worst form of narrative for disability is when disability is seen only as a metaphor or symbol to convey a larger message. It also needs to be noted that just by introducing a disabled character in the story, the issue would not be solved. There are so many tales in which the disabled character lurks in the shadows. The character might only have a locomotor disability, but is still denied a voice by the writer. They play the role of mere imageries in the story.

Lastly, I would like to focus on the terms used for disabled people in these chapters. Does it matter if an intellectually disabled person is referred to as 'retarded' in these texts? Indeed, it does. Words are not just letters weaved in a pattern, but a perspective through which anything is regarded in the society. Words carry within themselves meanings associated with objects and people in the real world. Derogatory words used for the differently abled will only create negative feelings in the minds of mainstream students. Thus, the words used also become extremely important to be dealt with cautiously, both by the writer and the teacher who is teaching that lesson in the classroom.

I believe that there would be no need to conduct inclusion seminars to make students foster empathy and dispel stereotypes in schools, if the young innocent minds of children would hold no prejudice against any kind of difference. These prejudices can be nipped in the bud, by teaching more inclusive stories in the classroom. In this manner, healthy behaviour towards one's peers would not have to be taught separately and a healthy environment at school would be built without effort. When it comes to classrooms, let us do our part to ensure that not just the ergonomic environment, but the curriculum as well, becomes inclusive as it would indirectly ensure capable and connected bonds between students of all backgrounds and abilities.

References

- Academy, E.B. (2017, April 11). *The Importance of Representation in Children's Literature*. Retrieved from <https://www.bkreader.com/2017/04/11/importance-representation-childrens-literature>
- Ackerman, S. (2017, February 3). *Mirrors for My Daughter's Bookshelf*. Retrieved from <https://www.nytimes.com/2017/02/03/well/family/mirrors-for-my-daughters-bookshelf.html>
- Banik, S. (2016). Representation of Disabled Characters in literature. *International Journal of English Language, Literature and Translation Studies (IJELR)*, 3(2), 198-201. Retrieved from <http://www.ijelr.in/3.2.16/198-201%20Dr.%20SOMDEV%20BANIK.pdf>
- Bowe, F. (1987). *Handicapping America: Barriers to Disabled people*. New York: Harper and Row
- Bronte, J. (2008). *Jane Eyre*. New York: Signet Classics
- Fraser, B. (2018). *Disability Scholarship at the Seam: The Materiality of Visual Narrative*. In *Cognitive Disability Aesthetics: Visual Culture, Disability Representations, and the (In)Visibility of Cognitive Difference* (pp. 73-94). Toronto; Buffalo; London: University of Toronto Press. doi: 10.3138/9781487515119-005
- Gartner, A. (1984). *Images of the Disabled: Disabling Images: The Disability Rag*. (pp. 31-46). New York: Praeger.
- Hill, S. (2006). *On the Face of It. Vistas: Supplementary Reader in English for Class XII (Core Course)* (pp. 56-69). New Delhi: NCERT
- Lapointe, G. (2018, June 3). *The Alienating Lack of Disability Representation in Literature*. Retrieved from <https://bookriot.com/2018/03/06/disability-representation-in-literature>
- Margolis, H., & Shapiro, A. (1987). Countering Negative Images of Disability in Classical Literature. *The English Journal*. 76(3), pp.18-22, doi:10.2307/81853010.
- Mcdonald, D. (2010). Not Silent, Invisible: Literature's Chance Encounters With Deaf Heroes and Heroines. *American Annals of the Deaf*. pp. 154(5), 463-470. DOI: 10.1353/aad.0.0114.
- Mitchell, D.T., & Snyder S.L. (2000). Representation and Its Discontents: The Uneasy Home of Disability in Literature and Film. *Narrative Prosthesis: Disability and the Dependencies of Discourse* (pp. 15-47). Ann Arbor, Michigan: The University of Michigan Press
- Mitchell, D. (2000). Body Solitaire: The Singular Subject of Disability Autobiography. *American Quarterly*, 52(2), pp. 311-315.10.1353/aq.2000.0020
- Quayson, A. (2007). A Typology of Disability Representation. *Aesthetic Nervousness: Disability and the Crisis of Representation* (pp. 32-54). New York, United States: Columbia University Press
- The Conversation. Why children's books that teach diversity are more important than ever. (2017, February 7). Retrieved from <http://theconversation.com/why-childrens-books-that-teach-diversity-are-more-important-than-ever-72146>
- Waldschmidt, A. (2017). Disability Goes Cultural: The Cultural Model of Disability as an Analytical Tool. In Waldschmidt A., Berressem H., & Ingwersen M. (Eds.), *Culture – Theory*



Disability: Encounters between Disability Studies and Cultural Studies (pp. 19-28).
Bielefeld: Transcript Verlag. doi: 10.14361/9783839425336-003.

Ware, L. (2002). A Moral Conversation on Disability: Risking the Personal in Educational
Contexts. *Hypatia*, 17(3), pp. 143-172. DOI:10.1111/j.1527-2001.2002.tb00945.x.

Re-Searching Happiness

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Abstract

Unravelling the mysteries of happiness is of interest to men and women since time immemorial. Philosophers and researchers across fields and across generations have devoted considerable time and effort to develop a deeper understanding about happiness and its connection with giving meaningfulness to human life. From expounding about an abstract concept such as happiness, the focus has now moved to providing achievable means of attaining happiness and understanding its impact on day to day lives of individuals. The idea of what brings true and lasting happiness is being adapted and implemented from various religious, philosophical and psychological disciplines to study its impact on alleviating human suffering. National and international level policies have been framed to combat the different challenges impacting the peace and well-being of individuals. One of the most interesting developments in this respect has been in the field of education. A shift has been observed in the educational policies of many countries which have realised that the purpose of education is not mere attainment of academic excellence, but of nurturing both cognitive and non-cognitive skills in children. This is a marker for a holistic approach to developing individuals who are content and at peace with themselves and the society.

Keywords: *Happiness, well-being, mindfulness, education, joy, holistic development*

I have spent my days stringing and unstringing my instrument while the song I have come to sing remains unsung.

Rabindranath Tagore

Happiness is construed as an essential outcome desired of all human endeavours. Like many other noble men such as Aristotle, Dalai Lama and others, Dambrun (2017) points out happiness as the ultimate end desired for its own sake, whereas all other desires are done for the sake of something else.

Over the centuries, there have been remarkable innovations and developments across fields and people are ever more desirous of having the best of everything in their lives. They are toiling hard to attain material possessions which they assume shall guarantee everlasting happiness. As a fruit of their efforts many people do experience

feelings of pleasure, however these emotions seldom last long. Happiness means much more than transient feelings of pleasure. It is a deeper state of mind, a state of equilibrium experienced when the individual is in harmony with oneself (Ventegodt, S.Merrick, J.Anderson; 2013). Happiness has been defined to include "the experiences of joy, contentment and positive well-being, combined with a sense that one's life is good, meaningful and worthwhile" (Lyubomirsky, 2011).

There is a distinction between fluctuating occurrences of happiness experienced as a result of sense gratifications and experiences of

emotional stability and feelings of harmony (Dambrun, 2017). Aristotle argues that common man relates happiness with pleasure and hence is guided by the hedonic principle (W.D. Ross, 1999). Individuals by nature are more inclined towards increasing their pleasures and avoiding painful experiences, which leads to fluctuating experiences of happiness (Dambrun, 2017).

The environment we have nurtured over the centuries is rendering us more pain than pleasure. Owing to the limitlessness of human desires, the number and array of human and natural atrocities is on an increase. Amid such an environment, how do we claim our happiness?

Aristotle has elaborated that success or failure in life does not depend on the material fortunes of a person but it is the virtuous activities that a person engages in which constitute happiness. He asserted that such virtues can be learnt and with proper study and care it is possible to develop humans capable of noble deeds, which is a precursor to attaining happiness. (W.D. Ross, 1999)

Further, research indicates that practising mindfulness can help reduce negative emotions and can enhance experiences of happiness and well-being (Cebolla et. al. 2017). The training in mindfulness is based on practising values such as kindness, compassion, gratitude and awareness about inner strengths for fulfilment of life goals, ultimately, aimed at pursuit of happiness. (Cebolla et. al. 2017). Mindfulness along with spiritual intelligence is found to improve mental health in students and decrease psychological anxieties (Nemati et al, 2017). It is useful to enable people to have a clear view of internal and external realities (Brown et al cited in Nemati et al, 2017), as well as to enable them to organise their thoughts, feelings and actions in a more coherent manner (Nemati et al. 2017).

Thich Nhat Hanh (2012) offers a range of mindfulness activities for children which he proclaims can be instrumental in attaining states of mental evenness. Activities of mindfulness

can help children to be fully alert and be joyful of everyday life experiences. He promotes the idea that through practising such activities, children are benefited in their academic pursuits as this increases their focus and concentration. He further claims that the practice can be helpful in developing students' socio-emotional skills, nurturing personalities at peace with themselves and the society and cultivates capabilities of dealing with conflicting life situations with equipoise.

Yung-Jong Shiah's (2016) Non-self theory further propagates the principle of self-cultivation by practising the teachings offered by Buddhism to attain enduring happiness. He provides a framework highlighting the need to practise non-self-plus-compassion related activities such as altruism, meditation, mindfulness and death mediation as a means to strengthen the self. Pro-social behaviours influenced by benevolence affects is beneficial in harnessing a sense of well-being and experiences of positive emotions while helping in dealing effectively with the challenges of stressful life situations (Dambrun,2017).

Positive psychology also seems to offer some plausible interventions to increase the level of happiness and decrease the negative aspects of psychological functioning. Multiple studies in the field of positive psychology seem to indicate that by guiding students to practise acts of gratitude and identification and appreciation of own strengths can lead to feelings of positivity and an increase in pleasant emotions (McCabe et al., 2011).

Further, Park (2003) suggested that interventions to increase happiness should be initiated early in childhood as the ongoing development offers much flexibility to build a strong foundation based on the virtues of happiness (McCabe et al., 2011). Children go through enormous difficulties such as mental health issues, risky behaviours as well as lack of socio-emotional support (Weisberg, Kumpfer & Seligman, 2003), alcohol

and drug abuse, among other difficulties which impact their holistic development and well-being. It is, therefore, imperative that preventive measures be taken to ensure that students develop resilience and the aptitude to deal with life challenges.

However, as Lyubomirsky and Layos' (2013) positive-activity model suggests, it is not merely practising the activities but the conditions under which they are practised that also affect the experiences of happiness. The model elaborates on three factors that impact the well-being of the individuals. The first one highlights the **activity features** such as dosage, variety, social support as well as whether the activities are present/past or future oriented; others vs. self-oriented or whether the activities are social vs. reflective in nature. Secondly, the **person features** as the motivation and effort, efficacy beliefs, baseline affective state, personality, social support and demographics, and, thirdly, the **person-activity fit** which presumes that certain activities influence certain individuals more than others (Lyubomirsky and Layos, 2013). All of these contribute to and influence the well-being of an individual.

Anand and Roope's (2016) capability framework further estimated parenting to have a significant impact on happiness of two to three year olds. The amount of time parents spend with their child and the cognate activities they engage in impacts the development of cognitive as well as non-cognitive skills of children. Reading and telling stories, shopping, indulging in art and craft activities have all turned out to be statistically significant indicators of child happiness. In addition, engagement with siblings, wherein they get an opportunity to imitate and indulge in playful activities, also helps in the development of social skills in children (Anand and Roope, 2016).

An array of indices have been developed and used in the recent past to measure the happiness levels of nationals of different countries. While

there is a lot to learn from those at the upper end of the ladder, there is a dire need to address the well-being issues of those at the lower end. The need is to rethink and redirect efforts to value human life and work for the welfare of human beings.

Research around the world has been influential in motivating policy makers to reap the benefits of nurturing happy individuals for building happier societies. Measures have been taken to understand the contextual causal factors of unhappiness and strategies have been adopted to develop the necessary skills and competencies, which will lead people to experience more fulfilling lives.

UNESCO's mandates and frameworks such as Incheon Declaration (2015) and the Commission on Global Citizenship Education (2012), among others have all prioritised happiness as the primary purpose of human existence and highlighted the role of education to cultivate, in individuals, the competencies and skills that are essential for promoting healthier and happier societies (UNESCO, Bangkok).

One such initiative, in this regard, is UNESCO's Happy Schools Framework, which identifies 22 criteria under the categories of people, process and place which can be effectively implemented to bring about positive changes in the school system and the society at large. The ideas and strategies, shared under the framework, are based on responses from various stakeholders across the school system and cater to the ground level challenges faced at the school level.

In the happy school criteria, the topmost priority is given to the establishment of friendships and relationships based on the virtues of trust, respect and tolerance. Further, a safe, accessible and amiable learning environment with amenities is considered essential to nurture strengths and competencies and a freedom to explore and engage in creative pursuits. Engaging in meaningful activities to develop social skills and build a spirit of collaboration is

regarded as meaningful for realising optimum development of the learners across all domains.

Based on the vision to build an educated and enlightened society, Bhutan's National Policy on Education highlights happiness as one of the essential goals of education. The policy promotes realisation of the happiness principle by nurturing a collaborative school and community network through its nine domains of happiness.

Bhutan is one of the first few countries which has been proactive in its inclination to nurturing happy individuals as a benchmark for the national development since early 1970s, ruling out measurement of the nation's progress through Gross Domestic Product in favour of Gross Happiness Product. GNH delineates multiple dimensions of an integrated nature, which are collectively responsible for attainment of balance and harmony in human life (Schroeder & Schroeder, 2014). Bhutan's education policy aligns itself with the values enshrined in GNH policy, which aim to promote interdependence and development of strengths and values that prepare for 'nationally rooted and globally competent' individuals (NEP 2018). The education policy gives precedence to monastic order of the Buddhist traditional form of education to foster spiritual development of individuals, by practising techniques of meditation and mindfulness. The aim is to build a positive school culture extending out to the outside community for nation building (UNESCO, 2016).

Japan's Education Policy promulgating the principle of "zest for living" aims not only for academic excellence but also the attainment of mental and physical well-being as much as development of a well-rounded character. Preservation of local culture and traditions and the establishment of a collaborative culture, while nourishing individual strengths to prepare people for global citizenship, are the core

objectives laid down in the policy (UNESCO, 2016).

Countries such as Republic of Korea, Singapore and Vanuatu have also progressed in their efforts to build happier societies through changes in their education system, adapting to a more holistic outlook of the purpose of education than mere academic skill development.

Based on the ideology of Education for life are also a set of schools in parts of America by Swami Kriyananda's Ananda Sangha community. The schools, other than developing academic skills, cater to other aspects that are essential for leading fulfilling lives. Nurturing the virtues of kindness, good will, spirit of cooperation, it seeks to instill a state of inner equilibrium which is essential for developing mature individuals who are adept at dealing with negativity both within and externally (Kriyananda, 2006).

Similar practices are also in existence in different parts of India, however, a great leap has been taken by Delhi government schools with the introduction of the Happiness Curriculum. The programme is still in its inception stage, but promises increased student alertness, improved relationships and abilities for critical and creative thinking.

The curriculum includes a range of activities designed to instill values and morals in children, which are essential for developing societies devoid of the evils of violence, hatred, jealousy and greed, and in creating mature and honest individuals who shall contribute in meaningful ways towards the development of self and the society (SCERT & DOE, 2018).

The curriculum draws heavily on practising mindfulness to attain inner peace and experience sustainable happiness. By actively engaging students, it aims to build students' capabilities in mindfulness, critical thinking, perspective taking and self-reflection skills through activities, stories, discussion and reflection-based enquiry. It seeks to do so by creating an environment

where students feel safe, valued and are at liberty to express themselves (SCERT, 2018).

Considering that India ranked 133rd in the World Happiness Report, 2018, such an initiative is appreciable and a much desired one. Reforms in the education policies are needed to elevate the

life conditions of human beings and to create more peaceful and happy societies. For all these years the world has focused on building skyscrapers and making great technological advancements, but there is a need to take appropriate steps to reach the pinnacle of human experiences of joy, peace and inner wisdom.

References

- Anand,P.& Roope,L.(2016). *The development and happiness of very young children*. Retrieved from <http://oro.open.ac.uk/475983/3/development%20and%20happiness%20-%20anand%20and%20roope%202016.pdf>
- Aristotle (350 B.C.E.), translated by W.D. Ross.(1999). *Nicomachean Ethics*. Retrieved from <http://classics.mit.edu/Aristotle/nicomachaen.mb.txt>
- Cebolla, E., Enrique, A., Alvear,D., Soler, J. & Garcia-Campayo, J. (2017). *Contemplative positive psychology: Introducing mindfulness into positive psychology*. Retrieved from <http://www.papelesdelpsicologo.es/English/2816.pdf>
- Cebolla, E.,Enrique, A.,Alvear,D., Soler, J. & Garcia-Campayo, J. (2017). *Contemplative positive psychology: Introducing mindfulness into positive psychology*. Retrieved from <https://www.hindawi.com/journals/tswj/2003/325251/abs/>
- Dambrun, M.(2017). *Self-centeredness and selflessness: happiness correlates and mediating psychological processes*. Retrieved from <https://peerj.com/articles/3306.pdf>
- Lyubomirsky,S. & Layous, K.(2013). *How do simple positive activities increase well-being*. Retrieved from <http://sonjalyubomirsky.com/files/2012/09/Lyubomirsky-Layous-20132.pdf>
- Lyubomirsky, S.(2001). *Why are some people happier than others? The role of cognitive and motivational processes in well-being*. Retrieved from <http://sonjalyubomirsky.com/wp-content/themes/sonjalyubomirsky/papers/L2001.pdf>
- McCabe, K., Bray, M. A., Kehle, T. J., Theodore, L. A., & Gelbar, N. W. (2011). Promoting happiness and life satisfaction in school children. *Canadian journal of school psychology*, 26(3), 177-192.
- Ministry of Education Royal Government of Bhutan.(2018). *National Education Policy Draft 2018*. Retrieved from <http://www.gnhc.gov.bt/en/wp-content/uploads/2018/05/National-Education-Policy-v13.pdf>
- Nemati, E., Habibi, M., Vargahan, F.A., Mohamadloo, S.S.,& Ghanbari, S.(2017). *The role of mindfulness and spiritual intelligence in students' mental health*. Retrieved from <https://doaj.org/article/00438557312c4883add1329c68190c79>
- SCERT. (2018). *Happiness Curriculum*. Delhi. SCERT & DOE, Govt. of NCT of Delhi
- SCERT. (2018). *Teacher's Handbook for Happiness Class Grade VI-VIII*. Delhi. SCERT & DOE, Govt. of NCT of Delhi

Schroeder, R.& Schroeder, K.(2014). *Happy Environments: Bhutan, Independence and the West*. Retrieved from https://res.mdpi.com/sustainability/sustainability-06-03521/article_deploy/sustainability-06-03521.pdf?filename=&attachment=1

Shiah, Yung-Jong (2016). *From self to nonself: The non-self theory*. Retrieved from <https://www.frontiersin.org/articles/10.3389/fpsyg.2016.00124/full>

Swami Kriyananda.(2006). *Education for Life. Preparing Children to Meet the Challenges*. Delhi.Ananda Sangha Publications

Thich Nhat Hanh & the Plum Village Community.(2012). *Panting seeds. Practicing Mindfulness with children*. New Delhi. Full Circle Publishing.

UNESCO (2016). *Happy Schools! A Framework for Learner Well-being in the Asia-Pacific*. Paris: UNESCO. Retrieved from <http://unesdoc.unesco.org/images/0024/002441/244140e.pdf>

Weissberg, R. P., Kumpfer, K. L., & Seligman, M. E. (2003). *Prevention that works for children and youth: An introduction* (Vol. 58, No. 6-7, p. 425). American Psychological Association.

Student Diversity in Classrooms

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Abstract

In a classroom, we come across diversity in various forms. They can be broadly classified into four categories: racial, ethnic, religious and linguistic backgrounds; different learning styles; different levels of motivation and different opinions about the world around them. This growing diversity is the cause of discrimination, leading to growing intolerance amongst the youth.

To lessen the gap, diversity has to be redefined to help remove intolerance. Students need to take pride in their individuality so there can be a change in their perceptions, leading to a better tomorrow.

This responsibility can be relegated to teachers as they are the nation builders and are considered the torchbearers and will remain so, come what may.

Keywords: *Diversity, schooling, language, inclusion*

Our ability to reach unity in diversity will be the beauty and the test of our civilization.

Mahatma Gandhi

Introduction

There has been growing intolerance amongst the youth all around the globe, the reasons are discrimination based on race, religion, gender, community. Our diverse views have created differences and the problems that could have been solved mutually are blown out of proportion, rifts created, enemies born, where no one is ready to compromise, let alone find solutions. In Australia, racial discrimination emerged as a big issue, in the US and UK, immigration became a political issue, while in India, there are divisions across gender, caste and religion. Even among the more educated youth, intolerance towards these sensitive issues exists. Where are we heading? Are we becoming so ruthless and mercenary that we can only think in these terms, think about the differences and find reasons to subjugate one another?

Diversity- Categories

The diversity can be broadly categorised into:

- Racial, ethnic, religious and linguistic backgrounds
- Different learning styles
- Different levels of motivation and
- Different opinions about the world around them

We live in a world of diversity. Every individual is different. Diversity can be seen in abundance, whether it be religion, caste, class or languages. With a change in distance, we find a change in dialect, cuisine and mind-sets. This diversity is extended to schools of today, where students from different backgrounds meet and study under the same roof. In certain instances, diversity can hinder the growth of the students because of their varied circumstances and perspectives, but the overall positive outcomes outweigh any negatives. Cesar Chavez rightly

says, *'We need to help students and parents cherish and preserve the ethnic and cultural diversity that nourishes and strengthens this community - and this nation.'*

Who can handle this responsibility?

The question arises, who can enlighten these innocent minds towards this diversity? The mantle falls on the teachers, because since time immemorial, they have been entrusted with this responsibility. They have been the torchbearers and will remain so. Now another question arises. With so many rights taken away from them, the teachers do not have the power to enforce these values. For instilling values, they might be taken to court, if the parent feels he/she is wrong and that their child is right. Then who can teach this life skill? Again, my answer would be the teachers, as they are the beacons of light in this dark world, who swallow the bitter pill to teach the minds under their care. In diversity there is beauty, a beauty that encompasses everyone in the vicinity, a beauty of thought a beauty of creativity and above all the beauty of strength leading to *'Unity in Diversity'*.

In every classroom, we find diversity, but instead of catering to it, we stuff them with the same syllabi, not realising its futility. We forget that we are catering to individuals and not dealing with assembly-line products. Instead of diversity, we force students to become similar and a part of the rat race. Instead of nurturing their individuality, helping them to explore their interests and passions, they are forced to conform to pre-conceived expectations. Sadly, we judge a fish's ability by its ability to climb or fly, and not by its ability to swim. We should remember the lesson given by *Aamir Khan* in *'Three Idiots'* to follow the dreams which we are passionate about.

In this 21st century, we, as custodians of the country's future and spirit have to instill the values of brotherhood and harmony, and to think above religion, caste, gender and category. Today, when we are facing differences, where

the majority is on the threshold of frustration and extinction, we need to teach the millennials to remove this diversity for the betterment of the society. We need to encourage diversity of thought, so that they can come up with *out of the box* solutions, to cater to the growing challenges and solutions to the problems that can destroy the sanctity of family, society and the nation.

How to deal with Diversity?

Redefine diversity: First and foremost, we need to redefine diversity. The diversity of thoughts, creativity, culture, languages, innovations and inventions that do not divide instead unite needs to be encouraged, so we truly become a nation with its tagline *'Unity in diversity'*. This diversity should be like the stars that brighten the galaxy and bring in serenity and tranquility to the universe. As Shashi Tharoor said, *"A nation may endure differences of caste, creed, colour, conviction, consonant, culture, cuisine, costume, custom and still rally around a consensus."*

Appreciate and value diversity: Teachers need to teach students to *appreciate and value diversity* (1). How boring would it be if we all looked alike, did similar things and behaved in a similar fashion. Nature, with its various landforms, variety of species and vibrant colours, looks beautiful, as it is full of diversity. Similarly, all of us, with our diversity, make the world beautiful. Instead of widening the gap by picking on their differences, we should lessen the gap by teaching them the power of appreciating diversity. This will help them in going beyond boundaries to understand one another and to value the differences.

Encourage Collaborative Learning: Teachers need to *encourage collaborative learning* (1) to help in generating tolerance. If they imbibe this quality, their time and creativity can be harnessed productively. Accepting differences goes a long way in cultivating lifelong bonds. When a team of students, with different skills and abilities, is made to work together, it can help them in learning from one another, but also

in understanding and accepting different opinions and ideas.

More than one answer: They also need to be taught, *there is not always just one right answer* (1). Thus, they can overview the situation from different perspectives, think instead of just getting answers. Every answer is correct if you have a valid reason. Teach them to think, explore and reason why. If they can, they will be able to face the challenges that they face in their path. Thus, it will not only encourage students to explore for answers, but it will also lead to fostering independent thinking. Moreover, when this happens, it will improve their communication skills, making them confident.

Passion for learning: Teachers can also generate in students, the *passion for learning and enjoying their individuality*. Exploring this diversity will help create many new professions, and instead of the world becoming competitive, everyone would be striving towards perfection. Imagine a world similar to the one Ayn Rand had created through John Galt, in *Atlas Shrugged*, where there was novelty and innovation. Ayn Rand said, “Do not let your fire go out, spark by irreplaceable spark in the hopeless swamps of the not-quite, the not-yet, and the not-at-all. Do not let the hero in your soul perish in lonely frustration for the life you deserved and have never been able to reach. The world you desire can be won. It exists...it is real.....it is possible.....it's yours.”(2)

Conclusion

Diverse are opinions, diverse are ways,

Diverse are thoughts, diverse are minds.

Can diversity adversely affect and be a cause of differences?

Can diversity create invisible walls and be a cause of conflicts?

Diversity is beauty in nature of hills and cascading waterfalls,

Diversity is beauty in differences of culture,

Diversity is beauty in thoughts and uniqueness,

Diversity is beauty in creation and strength.

Can this beauty be cultivated and strengthened?

Can this beauty be innovatively used?

Can this beauty help in Unity in diversity?

Teachers are beacons, the role models,

They are the hope, they are the source,

They are the ones who can enlighten the students,

That diversity is strength not weakness,

They can make them diverse yet similar,

Instead of machines, individuals who can think and realise.

They are the ones who can find solutions and bring in serenity,

They are the ones who are behind this beauty,

They are the creators of beautiful minds,

They bring out the individuality and blend it into creativity,

Bringing in life and vitality.

Thus, the need of the hour is to teach the wards under our care about diversity and how it can lead to a future filled with hope. Instead of creating a bleak future for themselves and the coming generations, create and recreate a world where there is no scope for hopelessness and frustration. Instead, it is all about living life to the fullest. As it is aptly said, “Live and act within the limit of your knowledge and keep expanding it to the limit of your life.” When they are able to inculcate this life skill, the day is

not far when they would be brimming with the acceptance of diversity. They will appreciate what Jacqueline Woodson said, *'Diversity is*

about all of us, and about us having to figure out how to walk through this world together.'

References:

<http://www.nde-ed.org/TeachingResources/ClassroomTips/Diversity.htm>

Younkins, E. W. (2016). *Ayn Rand's Atlas shrugged: a philosophical and literary companion*. Routledge.

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