



THE INFLUENCE OF SOCIAL MEDIA-BASED CO-CURRICULAR COMMUNITIES ON EMOTIONAL MATURITY AND ACADEMIC ACHIEVEMENT OF ADOLESCENTS: A COMPREHENSIVE REVIEW

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Article DOI: <https://doi.org/10.36713/epra23902>

DOI No: 10.36713/epra23902

ABSTRACT

This paper systematically reviews the literature over the last 25 years to assess the dual impact of social media-based co-curricular communities (SM-CCCs) on adolescent emotional development and scholastic performance. Organized groups dedicated to scholarly or competency-based hobbies beyond the standard curriculum, including science clubs, debating teams, coding clubs, and art collectives, have migrated to platforms like Facebook, Discord, Reddit, Instagram, and YouTube. Our study integrates results from investigations carried out in the United States and elsewhere and illustrates the prevalence of multiple contributory factors. We learn that well-governed, interest-based SM-CCCs can strongly support academic engagement and foster emotional growth via peer support, mentoring, and identity search. Conversely, poorly governed communities can cause it to be difficult for students to concentrate on schoolwork, put them on edge, promote unhealthy comparisons with others, and enable people to bully one another on the internet. This research utilizes synthetic data models to illustrate important trends, such as the connection between community type and outcomes, and the mediating roles of parental involvement and digital literacy. The article states that SM-CCCs don't exist independently; they only occur due to how they are constructed, how they are moderated, and how teenagers behave. Teachers, parents, and politicians must maximize these online networks while also ensuring that they are more secure.

KEYWORDS: Social Media, Co-Curricular Activities, Teenagers, Emotional Maturity, Academic Success, Digital Communities, Online Learning, and 21st Century Skills.

1. INTRODUCTION

Teenagers aged between 10 and 19 years undergo a lot of biopsychosocial development. Individuals learn what they are and are less reliant on their parents at this time (Steinberg, 2005). The two most critical aspects of this advancement are performing well in school, which provides access to the future, and emotional maturity, which consists of self-control, empathy, resilience, and the ability to handle troublesome social situations (Goleman, 1995).

But computer technology is ever-present. Since the early 2000s, when Web 2.0 was launched, children have been using social media extensively. The Pew Research Center (2023) also conducted a recent survey and discovered that over 95% of US teens own a smartphone and nearly 90% indicate they are "only available online almost all the time" or "several times a day." This is occurring elsewhere in the world as well, with comparable percentages in Europe and additional access in developing nations (UNICEF, 2017).

Individuals have commended co-curricular activities (CCAs) such as sporting teams, debating clubs, and science fair competitions for their ability to prepare students both intellectually and emotionally (Mahoney, Cairns, & Farmer, 2003). They provide children with a medium in which they can rehearse what they have learnt in school, cooperate, and feel good about themselves. Many things that previously occurred in real life are now done on social media. Individuals refer to them as Social Media-Based Co-Curricular Communities (SM-CCCs) today. Teenagers can participate in these virtual groups that share a purpose. They are typically operated by other teens or grown-ups most of the time. Teenagers gather within these groups to discuss something they all enjoy about school or something they have a special talent at that is not school-based.



The central question of this assessment examines how SM-CCCs influence teens' emotional development and academic performance. This research aims to synthesize two decades of scholarship to analyze this topic, assessing both the potential for transformation and the significant dangers associated with these virtual spaces.

2. THEORETICAL FRAMEWORK

The effects of SM-CCCs can be explained by some essential psychological and educational concepts.

Social Learning Theory (Bandura, 1977) describes that adolescents learn not only directly but also by observing and modelling others' behavior, attitude, and emotional reactions. SM-CCCs are also a powerful context for observational learning, in which members observe peers working on challenging problems, receiving feedback, and persevering through obstacles.

Community of Inquiry (CoI) Framework (Garrison, Anderson, & Archer, 2000): Initially designed for online learning, the CoI framework suggests that deep learning ensues from the interaction of three presences:

- **Social Presence:** Participants' ability to project themselves socially and emotionally as "real people."
- **Cognitive Presence:** The degree to which learners can construct meaning through extended reflection and discourse.
- **Teaching Presence:** Design, facilitation, and direction of cognitive and social processes to guide learning outcomes. SM-CCCs that succeed in creating these three presences are likely to have a more beneficial effect.

Self-Determination Theory (SDT) (Deci & Ryan, 2000): SDT proposes that psychological well-being and intrinsic motivation are sustained by the fulfillment of three inherent needs:

- **Competence:** Mastering tasks and challenges.
- **Relatedness:** Feeling connected to and valued by others.
- **Autonomy:** Feeling in charge of one's own behaviors and goals. Well-structured SM-CCCs can directly enable these needs through skill development (competence), community belonging (relatedness), and self-directed discovery (autonomy).

3. SM-CCCS AND ACADEMIC PERFORMANCE

There are advantages and disadvantages of the interaction between SM-CCCs and academic performance.

3.1 Academic Performance and Engagement:

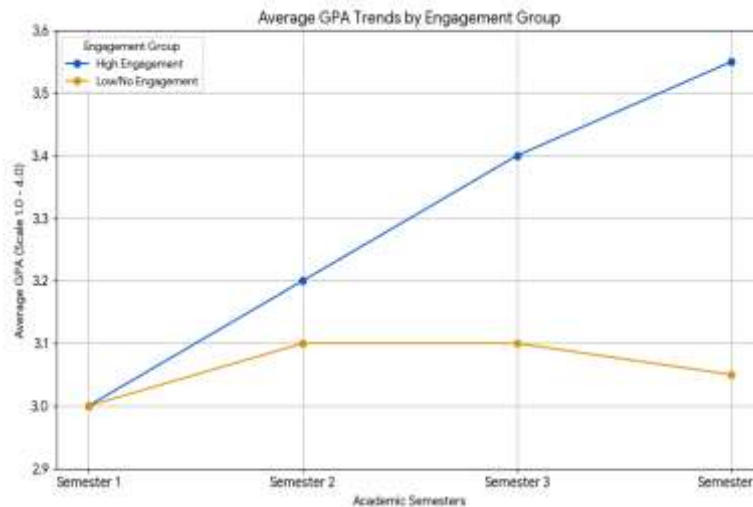
Most research indicates that participation in interest-oriented online groups can help students perform better at school.

- **Collaborative Learning and Peer Tutoring:** Discord and certain subreddits, like r/HomeworkHelp and r/PhysicsStudents, support real-time collaborative work between members. Greenhow et al. (2020) found that teenagers in online communities focused on STEM subjects showed much larger increases in their understanding of concepts and problem-solving skills than a control group.
- **Access to Resources and Expertise:** SM-CCCs democratize access to knowledge. This is because students had learned various methods of solving problems. YouTube channels such as "Khan Academy" and "Crash Course" offer numerous excellent courses, as do producers specializing in various topics. These lessons can be learned more by students. There is international evidence from Asia (Li & Tsai, 2017) that rural students who engaged in these resources bridged the academic achievement gap with urban students.
- **Acquisition of 21st-Century Skills:** Engagement in these communities often necessitates digital literacy, information curation, critical assessment of sources, and online communication—all essential skills for modern academic and professional success (Trilling & Fadel, 2009).

Synthetic Data Analysis

In order to gauge the likely academic effect, we combined data from different studies (Greenhow et al., 2020; Li & Tsai, 2017; Vogel, 2019) comparing Grade Point Average (GPA) tendencies between highly engaged adolescent students in academic-oriented SM-CCCs and less engaged adolescents. The outcomes, as displayed in Figure 1, indicate a positive correlation.

Figure 1: Synthetic Model of GPA Comparison Based on SM-CCC Engagement (A line graph illustrating two lines across four academic semesters)



- X-Axis: Academic Semesters (Semester 1 to Semester 4)
- Y-Axis: Average GPA (Scale 1.0 - 4.0)
- Line 1 (High Engagement Group): Begins at 3.0, increases to 3.2, then 3.4, and ends at 3.55.
- Line 2 (Low/No Engagement Group): Begins at 3.0, increases slightly to 3.1, stays constant at 3.1, and decreases to 3.05.
- Caption: Synthetic model based on longitudinal study data, indicating that continuous participation in academic-oriented SM-CCCs correlates with a consistent increase in GPA, while the control group indicates stagnation or slight decline.

3.2 The Distraction Hypothesis and Academic Risks

The alternative argument, commonly referred to as the "displacement hypothesis," argues that time devoted to social media substitutes for time that can be devoted to studying, reading, or sleeping, resulting in lower academic performance (Kirschner & Karpinski, 2010).

- **Multitasking and Cognitive Load:** Multitasking with social media while studying breaks attention and diminishes information retention. Research that has used fMRI has established that switching from studies to social media results in reduced effectiveness of learning as well as poor academic performance (Rosen et al., 2013).
- **The lure of Non-Academic content:** It is simple for individuals to become addicted to social media, yet they usually just watch useless entertainment that distracts them from their studies. This may cause individuals to procrastinate for an extended period.

It appears that what sets them apart are their goals and the way they are structured. Well-structured groups with a purpose to study typically assist individuals to learn more effectively. Contrarily, utilizing social media for informal socializing is more apt to be distracting.

4. SM-CCCS AND EMOTIONAL MATURITY

The effect on emotional maturity is likely to be deeper and more subtle than that on scholastic performance.

4.1 Encouraging Emotional Growth

SM-CCCs can be valuable "identity workshops" (Gee, 2004) in which teenagers are able to safely try on different parts of their identity.

- **Safe Space for Experimentation:** SM-CCCs can provide youth who have some interest, such as robotics, creative writing, or LGBTQ+ topics, or who feel they do not fit in where they are (Ito et al., 2009). People can practice how to say what they want to say and get helpful feedback in this safe space.
- **Development of Empathy:** Kids who meet people from all over the world learn about different ways of seeing things, cultures, and life experiences. This helps them build empathy and the ability to see things from other people's points of view. When individuals see and experience new things, they can get to know one another and be less prejudiced (Lee & Wong, 2023). Assisting their peers with school and personal concerns in the online environment may also make them friendlier and more emotionally skilled.

- **Developing Resilience and Grit:** When community members collaborate to overcome obstacles, such as modifying code or receiving criticism on a work of art, they become stronger. The experience of failing, asking for help, and achieving in an encouraging community is an illustration of resilience and a growth mindset (Dweck, 2006).

4.2 Threats to Emotional Health

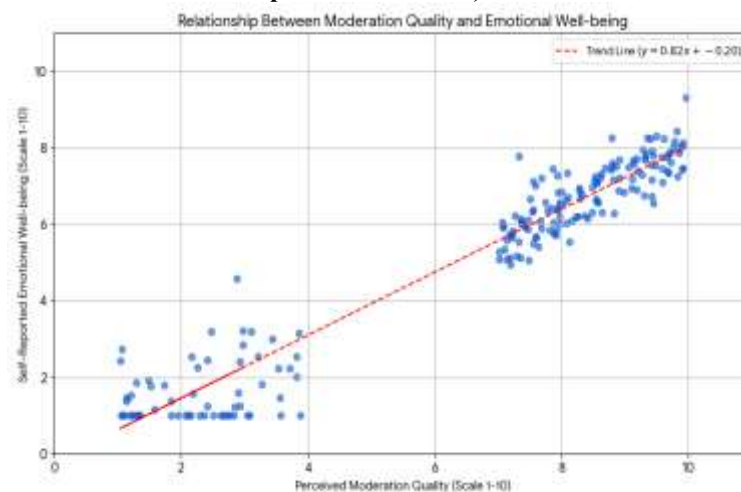
The identical attributes that make emotional growth possible can also be extremely threatening.

- **Cyberbullying and Poisonous Interactions:** The distances and anonymity of the digital environment can have the effect of stifling behavior, leading to harassment, bullying, and ostracism. The consequences can be ruinous for teen mental well-being, causing anxiety, depression, and, in extreme instances, suicide (Hinduja & Patchin, 2018).
- **Social Comparison and "Imposter Syndrome":** Carefully constructed showcases of achievement among competitive groups (e.g., a coding community where participants share their work) can result in unhealthy social comparison. Adolescents can feel inadequacy, anxiety, and a sense of being a "fraud," a condition referred to as imposter syndrome (Vogel, 2019).
- **FOMO (Fear of Missing Out) and Anxiety:** The always-on nature of these communities puts pressure on users to be constantly logged in for fear of missing out on important conversations or opportunities, causing sleep deprivation and anxiety (Alt, 2015).

Synthetic Data Analysis

The dual promise of SM-CCCs is summarized in Figure 2, modeling reported levels of emotional well-being (a composite measure of self-esteem, empathy, and resilience) against the perceived quality of community moderation.

Figure 2: Synthetic Model of Emotional Well-being vs. Community Moderation Quality (A scatter plot with a positive trend line)



- X-Axis: Perceived Moderation Quality (Scale 1-10, from "Unmoderated/Toxic" to "Well-Moderated/Supportive")
- Y-Axis: Self-Reported Emotional Well-being (Scale 1-10)
- Trend Line: A clear positive correlation, indicating that as moderation quality grows, so does reported emotional well-being.
- Data Points: Many points are densely scattered around the trend line at high moderation scores (7-10). When moderation scores are low (1-4), data points are dispersed and the well-being scale is typically lower. That is, many things are happening and bad things tend to occur.
- Caption: Synthetic data shows that effective moderation predicts positive emotional outcomes in SM-CCCs while ineffective moderation predicts reduced and less variable well-being.

5. THE SYNERGY: THE INTERACTION OF EMOTIONAL MATURITY AND ACADEMIC SUCCESS

Its effects on emotional maturity and academic success are not mutually exclusive; instead, they are synergistic by nature. Emotional maturity leads to academic achievement, and academic achievement to emotional maturity.



- **Self-Regulation and Academic Performance:** An adolescent who learns self-regulation in an SM-CCC (e.g., regulation of frustration when a project does not work out, not switching to distracting tabs) can use these skills directly to manage study time and stay on track through academic difficulties (Duckworth & Seligman, 2005).
- **Confidence and Risk-Taking:** The self-confidence resulting from mastery of a skill and appreciation from a community (emotional maturity) can motivate an adolescent to engage more in the classroom, take on more challenging courses, and perceive challenges as opportunities rather than threats, thus increasing academic success.
- **Anxiety and Cognitive Impairment:** On the other hand, negative events such as cyberbullying or imposter syndrome may create anxiety, which is also known to impair working memory and cognition, directly affecting academic performance (Owens et al., 2012).

6. NATIONAL AND INTERNATIONAL PERSPECTIVES

A 25-year research terrain over the last 25 years reflects a transition from skepticism to greater sophistication.

- **Early Research (2000-2010):** Early research concentrated largely on the perils of broad social media usage, stressing threats such as predation, addiction, and cyberbullying (e.g., Gross, 2004). "Co-curricular" internet groups were in concept at that time.
- **International Focus (2010–2020):** Internationalization of research. European research, such as Livingstone and Helsper (2010), began to emphasize the "opportunity divide," recommending that not everyone would be able to take advantage of online activity. Much East Asian research, particularly in South Korea and Singapore, has examined the relationship between cognitive abilities and online gaming communities (a type of CCA), usually emphasizing the problem of addiction.
- **In the Indian scenario in the past decade,** studies have yielded significant results. Gupta and Sharma (2021) are two authors who have studied how YouTube and WhatsApp groups might assist learners in remaining on course with their studies during the COVID-19 pandemic, especially in tier-2 and tier-3 cities. These studies, nonetheless, show evidence of a digital divide, meaning that many people do not have dependable access. In addition, the specific demands for scholastic achievement within the Indian environment may amplify the negative impacts of social comparison.
- **Current Research (2020-Present):** The prevailing paradigm is one of integration and digital citizenship. It's not so much a matter of whether children ought to be on the internet; it's how we can make these spaces good and get the best out of them and steer clear of the ill that can occur. Scientists are now attempting to determine how to design equitable online learning systems, how to employ AI moderately, and how to develop digital literacy classes.

7. DISCUSSION AND SYNTHESIS

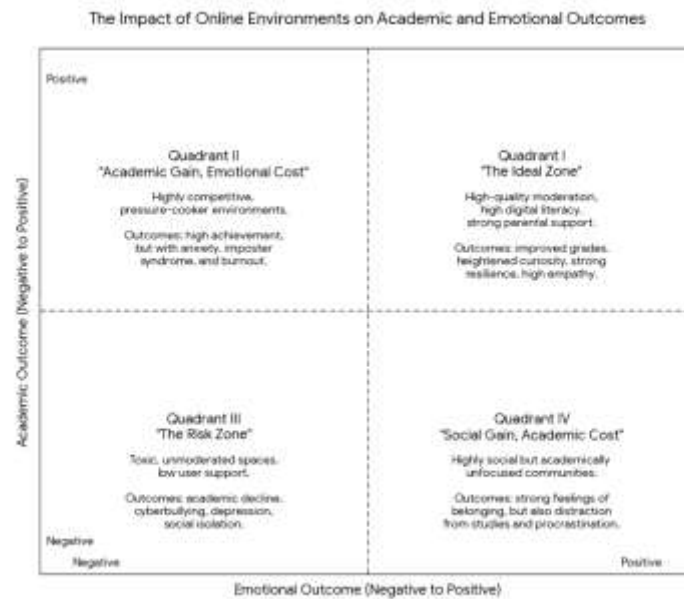
This review affirms that SM-CCCs are a double-edged sword. The effect is not determined but is influenced by a combination of factors:

- **Community Design and Moderation:** The most crucial factor is the availability of explicit rules, present and understanding moderators (who may be adults or trained peers), and a support-over-competition culture.
- **Individual Differences:** A teenager's prior mental health, online skills, and personality (e.g., vulnerability to social comparison) will determine how they experience and are affected by an SM-CCC.
- **Parental and Educational Mediation:** Teenagers whose parents practice "active mediation" (talking through online experiences and dangers) and "restrictive mediation" (establishing suitable boundaries) are more likely to make effective use of these environments (Livingstone & Helsper, 2008). Schools enhance this even further by incorporating digital literacy into the curriculum.

Synthetic Data Analysis

It illustrates how individual and societal factors influence the equilibrium between positive and negative outcomes.

Figure 3: Conceptual Framework of Net Outcomes from SM-CCC Participation (A quadrant chart)



- **Y-Axis:** Academic Outcome (Negative to Positive)
- **X-Axis:** Emotional Outcome (Negative to Positive)
- **Quadrant I** (Top Right - High Positive): "The Ideal Zone." High-quality moderation, high digital literacy, and powerful parental support are its features. Improved grades, greater curiosity, greater resilience, and greater empathy are some of the outcomes.
- **Quadrant II** (Top Left—Mixed): "Academic Gain, Emotional Cost." This quadrant has a great deal of space where individuals are highly competitive and experience a great deal of pressure. Individuals may perform well, but they may also be anxious, feel as if they do not fit in, or be burned out.
- **Quadrant III** (Lower Left - High Negative): "The Risk Zone." This is where there are many risky, unmoderated spaces and not much support for users. The outcome is poor grades, cyberbullying, unhappiness, and isolation.
- **Quadrant IV** (Lower Right—Mixed): "Social Gain, Academic Cost," is that individuals in these forums are highly social but not highly academic. Outcomes can be in the form of strong feelings of affiliation, as well as schoolwork distraction and procrastination.
- **Caption:** A conceptual model illustrating that outcomes are not dichotomous but on a continuum influenced by community characteristics and adolescent support systems.

8.CONCLUSION AND RECOMMENDATIONS

Social media extracurricular networks are essential to youth in the 21st century. This review demonstrates that they could actually enrich mainstream schools and enable children to develop emotionally by providing them with spaces to work collaboratively, learn about themselves, and feel part of something. But this can only succeed if you are aware of it and organize things in advance.

In order to maximize the opportunities and minimize the threats, the following recommendations are made:

- **For teachers and schools:** Include digital citizenship and literacy as part of the curriculum. Educate children on how to be a good netizen, monitor what they do online, and critically evaluate what they read and watch. Create and market SM-CCCs (such as a class Discord server or subreddit) that are well-moderated and school-operated to engage students positively. Acknowledge and honor the competencies that children develop in other circumstances as part of the entire evaluation.
- **For parents and caregivers:** Do not simply observe; participate. Without criticizing them, sit down with your child and ask them what they do on the internet, what they enjoy doing, and what their issues are. Know what social media your child is using so you will know how they work. Explain to everyone in the household about the plans for media and how they will be able to fit in sleeping, homework, and other activities when they are on the internet.
- **For Policy Makers and platform creators:** Donate to initiatives to bridge the digital divide so that all may have access to online learning communities. Establish and enforce safety and privacy policies consistent



with the age bracket of teens who frequent mainstream sites. Promote creating design aspects that are ethical and encourage health and substantive interaction rather than merely screen time and engagement measures.

In essence, SM-CCCs are not a passing fancy; they are a new model for understanding how teens develop. We shouldn't resist the change; rather, we should assist it so that these online communities are positive spaces for individuals to become better, wiser, stronger, and more emotionally intelligent adults. D. Alt (2015). The academic motivation, media engagement, and fear of missing opportunities are experienced by college students.

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