

'I am enough!' study of social self-efficacy in female AYA college students

Abstract

The Association of Adolescents and Child Care in India (AACCI; www.aacci.in) conducts multicentric studies on youth behavior in India using openly accessible psychometric tools. This study is part of a multi-centric youth project "Building Resilience in Youth;" we used Connolly's (1989) Social Self-Efficacy Scale (SSES) to explore the relationship between social self-efficacy (SSE), an important soft skill for adolescents and young adults (AYAs), and several sociodemographic variables, including age, sibling status, academic course, engagement in extracurricular activities, perceived Internet/social media usage and dependence, substance use, and perception of control over one's life. The study design was a cross-sectional study conducted in 2018 with 354 female AYAs aged 17 to 21 years from an all-women, multi-stream college in Delhi. The results showed that participants in the 17-19 age group had higher total SSES scores along with the Friendship/Intimacy, group, and Giving/Receiving Help subscales. Participants engaging in extracurricular competitions had a higher total SSES score including Assertiveness, Group, Public Performance, and Giving/Receiving Help subscales. Participants who had no siblings scored higher on the Friendship/Intimacy subscale. Participants competing in sports competitions score higher on the public performance subscale. All other demographic variables did not have a statistically significant relationship with the total and subscale SSES scores. The results allowed the management to conduct parent and student workshops. In addition, more studies are needed to qualitatively understand the role of age, extracurricular competitions, and sibling status on SSE with a more diverse sample.

Keywords: social self-efficacy, social self-efficacy scale, adolescents, young adults, age, extracurricular competitions, social media, siblings

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Abbreviations: SSE, social self-efficacy; SSES, social self-efficacy scale; AYA, adolescents and young adults; AACCI, association of adolescent and child care in India; IAT, internet addiction test

Introduction

The concept of social self-efficacy is central to human development. An individual's journey from adolescence to adulthood is marked by profound changes leading to identity formation which plays an essential role in their social life as an adult. Social Self-Efficacy is derived from Bandura's (1977) theory of self-efficacy.¹ Self-efficacy can be defined as the individual's belief in their efficacy of being successful in doing something.² Hence, social self-efficacy is an individual's level of self-efficacy in having successful social interactions and maintaining personal relationships.³ Four critical factors contribute to the development of self-efficacy: Mastery of experiences, emotional arousal, social persuasion, and encouragement.¹ These factors apply to the development of social self-efficacy as well.⁴ Self-efficacy is not merely self-confidence, but it also entails the belief in the controllability of circumstances and actions taken, also known as the locus of control.^{5,6} A high internal locus of control is related to high self-efficacy.⁷ Hence, Individuals with high social self-efficacy typically expect social success with the social experiences they engage in.⁸

Young adults constantly grapple with the complexities of modern-day society. High social self-efficacy can be a powerful tool for ensuring positive outcomes in daily social interactions. Individuals with high self-efficacy have several advantages over those with low self-efficacy in social settings as they have better social skills and decision-making abilities.⁹ High self-efficacy also leads to higher

academic performance and aids learning.¹⁰ However, if successes in social experiences can lead to increased social self-efficacy, failures in social experiences may lead to the opposite effect as expectations about social success are lowered. Studies show that adverse social outcomes such as loneliness, depression, and high suicidality have been on a constant increase in the ages of 18 to 29.¹¹ Deficits in perceived social self-efficacy might explain these alarming findings as young adults with low social efficacy may feel more loneliness and depression.^{12,13}

Based on previous research, it can be posited that perceived social self-efficacy may not be an outcome based solely on social interactions but also on self-esteem.¹⁴ Hence, factors that contribute to high self-efficacy may also contribute to higher social self-efficacy. Studies have shown that factors such as sports participation, participation in competitions, and age have been positively related to perceived self-efficacy.¹⁵⁻¹⁷ Social media use and internet use show mixed results related to self-efficacy.¹⁸⁻²⁰ Finally, factors such as alcohol and tobacco use are weak predictors of self-efficacy.^{21,22}

Several studies using functional MRI and PET scans have shown that brain development begins from behind and towards the front, that is, the hypothalamic limbic system (which controls our emotions) matures first and the prefrontal cortex (which controls the hypothalamic limbic system and helps to make rational decisions with an ability to see the future consequences of one's actions) matures last—at around 25 years. Hence, it is expected that there may be age-based differences in brain development among adolescents (17-19 yrs.) vs. young adults (20-21 yrs.) in the current sample.²³ Accordingly, the sample was divided into two groups, and age-based differences in social self-efficacy were studied.

The primary aim of this study was to see the level of social self-efficacy scores in the sample, to compare them with other studies, and to determine age-related differences. The overall goal of this study is to gain a better understanding of social self-efficacy in a sample of Indian young adults. Studying factors related to self-efficacy can help us build a detailed understanding of their relationship with social self-efficacy. The outcomes of this research can also help us build improved resources and interventions for young adults. The study compared the social self-efficacy scores of female university students by studying socio-demographic variables such as age, sibling status, academic courses, participation in non-athletic and athletic competitions; internet and social media usage and perceived dependence; consumption of alcohol and tobacco and perceived control over one's life.

AACCI also wanted to explore the relationship between sibling status (no siblings, one sibling, and more than one sibling) on social self-efficacy. Siblings have been recognized as a source of support, strength, and affection. Social self-efficacy can differ among individuals who have grown up among siblings, learned to share, talked about their feelings, and supported one another. Adlerian studies on sibling rivalry have shown associations with unhealthy competitiveness, perceived parental rejection, and poor self-image.²⁴ Accordingly, the current study aimed to explore differences in social self-efficacy among participants who had no siblings, one sibling, or more than one sibling. We have not conducted an in-depth analysis of the gender and age of siblings, inter-sibling relationships, sibling rivalry, differential parenting, etc. as that was not the focus of our study.

One's choice of academic pursuits often depends on their aptitude, interest, and realities (familial pressure, finances, grades, etc.). Different streams have different entrance requirements, tap on various soft skills, demand different intensities of work, and require varying coping and regulatory strategies; the struggles for the same could impact the students' social self-efficacy.²⁵ Accordingly, the current study explored differences in social self-efficacy among participants pursuing BSc, BA, and BCom. Participation in intercollegiate competitions is known to increase self-confidence and self-esteem and also enhance the ability to deal with stress, reduce performance anxiety, and strengthen other soft skills.²⁶ Accordingly, the current study tried to see if there is a difference in the social self-efficacy of participants who participated (vs. did not participate) in intercollegiate non-athletic competitions.

Sports are known to enhance executive functions, teamwork, resilience, and the capacity to deal with failures. Our previous study showed that engineering college girls who participated in sports competitions scored higher on social self-efficacy and self-regulation than non-participants.²⁷ Accordingly, the current study tried to see if there is a difference in social self-efficacy among participants who participated (vs. did not participate) in intercollegiate athletic competitions.

In our previous study,²⁷ we studied the scale scores in relation to participation in athletic and non-athletic intercollegiate competitions. It was found that females who participated in athletic and non-athletic inter-collegiate competitions scored higher on social self-efficacy and self-regulation than non-participants. During the global pandemic of COVID-19, the internet and social media were primary sources that fostered connectedness. This continued post-COVID and has led to issues like addiction, breach of privacy, and disconnect from the real world. AACCI has previously studied the impact of Internet addiction using Kimberly Young's Internet Addiction Test (IAT).²⁸ As we had

studied the psychometric scales in addition to socio-demographic questions in this study, we did not add the IAT scale to avoid fatigue among participants while filling out the questionnaire. Since the participants were all between the ages of 17 and 21 years, and mature enough to report their self-perception, we inquired about their self-proclaimed dependence on the Internet (yes vs. no) and on social media (yes vs. no) on social self-efficacy. This was preceded by an inquiry about whether they used the internet and social media (yes vs. no).

Consumption of substances is a common occurrence in adolescence and young adulthood. Indulgence in substance use is often a result of curiosity and experimentation, peer pressure, or even an unhealthy coping mechanism during distressing situations.^{29,30} The ability to say no and refrain from this indulgence requires high self-esteem, emotional regulation, and self-control. Hence, we explored the differences in the scores of participants who consumed (vs. did not consume) alcohol and (vs. did not consume) tobacco. Several studies have established associations between perceived control over one's life (yes/no/maybe), Social self-efficacy, and one's overall well-being. AACCI has previously studied the impact of perceived self-control (submitted for publication in IJCP). As stated previously, AACCI did not use this standardized scale to avoid fatigue among participants while filling out the questionnaire.

Materials and methods

Aims and objectives

In 2017, the Association of Adolescent and Child Care in India (AACCI) initiated the project on "Building Resilience" among school and college students in India. As part of this project, AACCI has been conducting multicentric studies on youth behavior using standardized psychometric tools to study: a) resilience and b) some components that help to build resilience, such as self-esteem, self-regulation, emotional intelligence, and social self-efficacy. Based on the findings from the surveys, AACCI continues to customize various intervention programs in addition to the Life Skill education workshops that are regularly conducted in various schools and colleges for the holistic wellness of children and adolescents.

The current study aimed to determine the scores of the SSES in (n = 354) college girls from a women's college in Delhi and draw age-based comparisons (group I: 17-19 yrs. and group II- 20-21 yrs.) for the same. AACCI has published a study conducted with females studying in an engineering college in Pune²⁸ to explore the relationships between individual scale scores and socio-demographic variables, including age, sibling status, and academic courses (B.A., BCom, and BSc.), engagement in extracurricular activities, perceived Internet and social usage and media dependence, substance use, and perception of control over one's life.

Hypotheses

Age (Group I: 17-19 yrs./ Group II: 20-21 yrs.)

Based on the previous research it was hypothesized that the total and subscale SSES score of participants in age group II will be significantly higher compared to the participants in age group I.

Sibling status (no siblings/one sibling/more than one sibling)

Based on the previous research it was hypothesized that participants who have one or more than one sibling will have higher total and subscale SSES scores compared to the participants with no siblings.

Academic course (B.A./BCom./BSc.)

There was no hypothesis regarding a difference in SSES scores according to the academic course. This variable was used as an observational measure.

Participation in various competitions (Yes/No)

Based on the previous research it was hypothesized that participants who participate in competitions will have higher total and subscale SSES scores compared to the participants who do not participate in competitions.

Participation in sports competitions (yes/no)

Based on the previous research, it was hypothesized that participants who participate in sports competitions will have higher total and subscale SSES scores compared to the participants who do not participate in sports competitions.

Internet usage (Yes/No)

Based on the previous research, it was hypothesized that participants who used the internet would have a higher total and subscale SSES score compared to participants who did not use the internet.

Self-perception of dependence on the Internet (Yes/No)

Based on the previous research, it was hypothesized that participants who are not dependent on the internet will have higher total and subscale SSES scores compared to participants who are dependent on the internet.

Social media usage (Yes/No)

Based on the previous research, participants who use social media will have a higher total and subscale SSES score compared to the participants who do not use social media.

Self-perception of dependence on social media (Yes/No)

Based on the previous research it was hypothesized that participants who are not dependent on social media will have a higher total and subscale score compared to participants who are dependent on social media.

Consumption of alcohol and consumption of tobacco (Yes/No)

Based on the previous research it was hypothesized that participants who consume alcohol will have a higher total and subscale SSES score compared to participants who do not consume alcohol.

Based on the previous research it was hypothesized that participants who consume tobacco will have a higher total and subscale SSES score compared to participants who do not consume tobacco.

Self-perception of control over one's life (Yes/No/Maybe)

Based on the previous research it was hypothesized that participants who perceive to be in control over their lives will have higher total and subscale SSES scores compared to those who are unsure of their perception of control and those who do not feel in control of their life.

Sample characteristics

Participants included 354 women (n = 354; age range: 17-21 yrs., mean age = 18.63 yrs., SD = 1.06 yrs.) pursuing B.A., BCom., or BSc. from an all-women's college in North India.

Sample selection

Participants were selected via convenience sampling. AACCI conducted an awareness program at this all-women's college in North India (pursuing B.A., BCom., or BSc. Courses) and requested students to participate in their survey. Participants filled out the online survey questionnaire under the supervision of their college professor and a team of student volunteers trained by AACCI.

Exclusion and inclusion criteria

There were no exclusion criteria, and all the students who volunteered to participate in the survey were included in the study.

Study design

A cross-sectional study was conducted using convenience sampling.

Study duration

The study spanned a three-month period from July to September 2018.

Procedures

As part of its multicentric studies on youth behavior in India, AACCI designed and administered a survey questionnaire, which focused on collecting socio-demographic data in addition to the following five psychometric tools to gauge the participants' stratum of resilience, self-efficacy, emotional intelligence, self-regulation, and self-esteem, respectively: 1) Child and Youth Resilience Measure (CYRM-28),³¹ 2) Social Self-efficacy Scale (SSES),³² 3) Schutte Emotional Intelligence Scale (SEIS),³³ 4) Adolescent Self-Regulation Inventory (ASRI),³⁴ and 5) Rosenberg's Self-esteem scale (RSES).³⁵

Additionally, the form contained the questionnaire to gauge the participants' socio-demographic details. Participants first reported their age, sibling status (no sibling, one sibling, and more than one sibling), and academic course (B.A./BCom./B.Sc.). The questionnaire explored their participation in interschool/college competitions, especially athletic and sociocultural competitions. The questionnaire also explored their self-perceived Internet and social media usage and dependence. Participants were asked to report if they consumed tobacco products or alcohol. Lastly, they were asked if they believed that they were in control of their life.

Instruments

Psychometric measurement

Social Self-efficacy was measured by using Connolly's (1989) SSES – Social Self-efficacy Scale.³¹ This 25-item, 5-point Likert scale with responses ranging from 1 ("Impossible to do") to 5 ("Extremely easy to do") is used for measuring social self-efficacy. A high score on the scale indicates high social self-efficacy. This instrument includes descriptions of common social scenarios that include social assertiveness, participation in social or group activity, social behavior, and giving and receiving help. The scale has robust reliability as past research demonstrates a Cronbach's alpha of .90 to .95.³⁶ The scale has shown a significant positive correlation to the self-perception profile scale.³⁷

Social and demographic variables

In addition to the above five psychometric scales, we also administered a questionnaire (Table 1) to collect Socio-demographic data to explore the impact of these variables on the various scores of the Psychometric scales. We measured variables such as age (Group I: 17-19 yrs./ Group II: 20-21 yrs.), sibling status (no siblings/one sibling/more than one sibling), academic course(B.A./ B.Com./

BSc.), participation in various competitions (yes/no), participation in sports competitions (yes/no), internet and social media usage(yes/no), perceived dependence on social media and internet (yes/no), consumption of alcohol (yes/no), consumption of tobacco (yes/no) and perceived control over one's life (yes/no/maybe) through a questionnaire before the psychometric measurements were administered. The form contained the questionnaire enlisted in Table 1 to gauge the participants' socio-demographic details.^{38,39}

Table 1 Number of responses and mean total scores for the social self efficacy scale

Variable	Responses	Number (%)	Mean±SD
Age	Group I: 17-19 yrs.	275 (77.68%)	97.018±14.235
	Group II: 20-21 yrs.	79 (22.32%)	92.456±15.663
Sibling status	No sibling	19 (5.37%)	100.368±14.256
	One sibling	186 (52.54%)	97.209±14.079
	More than one sibling	149 (42.09%)	93.933±15.232
Academic course	B.A.	70 (19.77%)	97.700±15.102
	BCom.	43 (12.15%)	98.233±12.440
Do you participate in any inter school/college sports competitions?	BSc.	241 (68.08%)	95.108±14.873
	Yes	55 (15.54%)	98.054±14.437
Do you participate in any other inter school/college competitions?	No	299 (84.46%)	95.622±14.701
	Yes	111 (31.36%)	100.108±11.926
Do you use the Internet?	No	243 (68.64%)	94.123±15.423
	Yes	352 (99.44%)	95.937±14.629
Do you believe that you are dependent on the Internet?	No	2 (0.56%)	107.000±24.042
	Yes	222 (62.71%)	96.414±14.458
Do you use social media?	No	132 (37.29%)	95.303±15.041
	Yes	332 (93.79%)	96.307±14.313
Do you believe that you are dependent on social media?	No	22 (6.21%)	91.364±19.048
	Yes	108 (30.51%)	97.491±13.792
Do you consume any tobacco products?	No	246 (69.49%)	95.345±14.015
	Yes	3 (0.85%)	96.667±13.868
Do you consume alcohol?	No	351 (99.15%)	95.994±14.692
	Yes	10 (2.82%)	96.300±10.393
Do you believe that you are in control of your life?	No	344 (97.18%)	95.991±14.784
	Yes	173 (48.87%)	97.595±14.278
	Not Sure	40 (11.30%)	94.603±14.779
		94.025±15.541	

Additionally, AACCI has published individual papers for scales related to resilience, self-esteem, self-regulation, emotional intelligence, and self-efficacy,²⁸ exploring their distinct relationships with the demographic variables for the same cohort. The current paper discusses the analysis of results pertaining to the Social Self-Efficacy Scale (SSES).⁴⁰

Statistical analysis

The data were analyzed using IBM SPSS 28.0.0. t-tests were conducted to study the effects of age and engagement in extracurricular activities. Further, one-way ANOVAs were conducted to determine the effects of sibling status, academic course, and self-perceived control over one's life). The statistical significance of the calculated coefficients was considered at p < 0.05.

Permissions and ethical considerations

Ethical clearance for this project was given by AACCI's Institutional Ethics Committee. Permission for conducting the current

study was procured from the college's principal. Informed consent was obtained via the questionnaire. This was not a clinical trial, and the participants were not patients.

Results

Results were obtained from all 354 participants in a single session. No data was excluded. The following table shows a detailed breakdown of the number of responses obtained for each category of each variable and the total mean score SSES of the participants in each category of the variables (Table 1).

Table 2 shows a more detailed overview of the age-wise distribution of the total and subscale social self-efficacy scores and the various score ranges in the total SSES and each of its subscales. Data analysis was done separately for each scale of the SSES. Statistical analysis of the mean total social self-efficacy scores revealed that significant differences in SSES scores were found for the variables age and participation in extracurricular competitions. Participants in age group

I (17-19 years) (M = 97.018, SD = 14.235) had significantly higher total scores on the SES scale compared to participants in age group II (20-21 years) (M = 92.456, SD = 15.663), $t(352) = -2.454, p = .015, CI [.906, 8.219]$. Participants engaging in extracurricular competitions excluding sports (M = 100.108, SD = 13.890) had significantly

higher total scores on the SES scale compared to participants who did not participate in extracurricular competitions (M = 94.123, SD = 15.423), $t(352) = 3.622, p = <.001, CI [2.735, 9.234]$. All remaining demographic variables demonstrated no statistically significant effects on the total social self-efficacy scores (Table 3).

Table 2 Age-wise distribution of SSES scores (n = 354)

SSES	Range	Late adolescents (n = 275) (Group I: 17-19 yrs.)		Young Adults (n = 79) (Group II: 20-21 yrs.)	
		n (%)	SSES (M±SD)	n (%)	SSES (M±SD)
Total SSES score	25-125	275 (77.68%)	97.018±12.235	79 (22.32%)	92.456 ±15.663
Friendship	7-35	275 (77.68%)	27.301±4.825	79 (22.32%)	25.835±5.705
Social assertiveness	5-25	275 (77.68%)	20.640±3.336	79 (22.32%)	19.860±3.422
Social groups	6-30	275 (77.68%)	20.640±3.336	79 (22.32%)	19.860±3.422
Public performance	4-20	275 (77.68%)	15.243±2.905	79 (22.32%)	14.721±2.899
Giving/Receiving help	3-15	275 (77.68%)	12.538±1.906	79 (22.32%)	12.000±2.100

Table 3 Effects of demographic variables on mean total social self-efficacy scores

Variable	Responses	Number (%)	Total SSES scores			
			Mean±SD	T/F	df	p-value (p<0.05)
Age	Group I: 17-19 yrs.	275 (77.68%)	97.018±14.235	2.454	352	.015
	Group II: 20-21 yrs.	79 (22.32%)	92.456±15.663			
Sibling status	No sibling	19 (5.37%)	100.368±14.256	2.988	2, 351	.052
	One sibling	186 (52.54%)	97.209±14.079			
	More than one sibling	149 (42.09%)	93.933±15.232			
Academic course	B.A.	70 (19.77%)	97.700±15.102	1.417	2, 351	.244
	B.Com.	43 (12.15%)	98.233±12.440			
Do you participate in any inter school/college sports competitions?	Yes	55 (15.54%)	98.054±14.437	1.131	352	.259
	No	299 (84.46%)	95.622±14.701			
Do you participate in any other inter school/college competitions?	Yes	111 (31.36%)	100.108±11.926	3.622	352	<.001
	No	243 (68.64%)	94.123±15.423			
Do you use the Internet?	Yes	352 (99.44%)	95.937±14.629			
	No	2 (0.56%)	107.000±24.042			
Do you believe that you are dependent on the Internet?	Yes	222 (62.71%)	96.414±14.458	.689	352	.491
	No	132 (37.29%)	95.303±15.041			
Do you use social media?	Yes	332 (93.79%)	96.307±14.313	1.534	352	.126
	No	22 (6.21%)	91.364±19.048			
Do you believe that you are dependent on social media?	Yes	108 (30.51%)	97.491±13.792	1.268	352	.206
	No	246 (69.49%)	95.345±14.015			
Do you consume any tobacco products?	Yes	3 (0.85%)	96.667±13.868			
	No	351 (99.15%)	95.994±14.692			
Do you consume alcohol?	Yes	10 (2.82%)	96.300±10.393			
	No	344 (97.18%)	95.991±14.784			
Do you believe that you are in control of your life?	Yes	173 (48.87%)	97.595±14.278	2.038	2, 351	.132
	No	141 (39.83%)	94.603±14.779			
	Not Sure	40(11.30%)	94.025±15.541			

Statistical analyses of the Friendship/Intimacy subscale revealed significant differences for variables age and sibling status. Participants in age group I (17-19 years) (M = 27.301, SD = 4.825) had significantly higher total scores on the friendship/intimacy sub-scale compared to participants in age group II (20-21 years) (M = 25.835, SD = 5.705), $t(352) = 2.353, p = .019, CI [.241, 2.692]$. Participants who had no siblings (M = 28.684, SD = 4.679) had significantly higher total

scores on the friendship/intimacy subscale compared to participants who had one sibling (M = 27.698 SD = 4.768) and participants who had more than one sibling (M = 25.852, SD = 4.917), $F(2, 351) = 7.311, p = <.001, CI [.008, .084]$. All remaining demographic variables demonstrated no statistically significant effects on the total social self-efficacy scores (Table 4).

Table 4 Effects of demographic variables on mean friendship/intimacy social self-efficacy subscale scores

Variable	Responses	N (%)	Friendship/Intimacy subscale scores				
			Mean±SD	T/F	df	p-value (p ≤0.05)	
Age	Group I: 17-19 yrs.	275 (77.68%)	27.301±4.825	2.353	352	.019	
	Group II: 20-21 yrs.	79 (22.32%)	25.835±5.705				
	No sibling	19 (5.37%)	28.684±4.679				
Sibling status	One sibling	186 (52.54%)	27.698±4.768	7.311	2, 351	<.001	
	More than one sibling	149 (42.09%)	25.852±4.917				
	B.A.	70 (19.77%)	27.214±4.634				
Academic course	B.Com.	43(12.15%)	27.418±4.360	.368	2, 351	.692	
	B.Sc.	241(68.08%)	26.825±5.91				
	Do you participate in any inter-school/college sports competitions?	Yes	55 (15.54%)				27.218±5.276
No	299 (84.46%)	26.929±4.851					
Do you participate in any other inter-school/college competitions?	Yes	111 (31.36%)	27.630±4.162	1.703	352	.090	
	No	243 (68.64%)	26.674±5.201				
	Do you use the Internet?	Yes	352 (99.44%)				26.946±4.907
Do you believe that you are dependent on the Internet?	Yes	222 (62.71%)	27.148±4.967	.864	352	.388	
No	132 (37.29%)	26.682±4.824					
Do you use social media?	Yes	332 (93.79%)	27.105±4.800	1.954	352	.051	
	No	22 (6.21%)	25.000±6.179				
	Do you believe that you are dependent on social media?	Yes	108 (30.51%)				27.731±4.727
No	246 (69.49%)	26.642±4.965					
Do you consume any tobacco products?	Yes	3 (0.85%)	27.000±4.358	No	351 (99.15%)	26.974±4.923	
	Do you consume alcohol?	Yes	10 (2.82%)				27.100±3.814
	No	344 (97.18%)	26.971±4.945				
Do you believe that you are in control of your life?	Yes	173 (48.87%)	27.271±4.685	.723	2, 351	.486	
	No	141 (39.83%)	26.375±5.489				
	Not Sure	40 (11.30%)	26.871±5.024				

Statistical analysis of the Assertiveness subscale revealed significant differences in the variables participation in competitions excluding sports. Participants engaging in extracurricular competitions excluding sports (M = 21.595, SD = 2.744) had significantly higher total scores on the assertiveness subscale compared to participants

who did not participate in extracurricular competitions (M = 19.950, SD = 3.500), $t(352) = 4.371, p = <.001, CI [.904, 2.388]$. All remaining demographic variables demonstrated no statistically significant effects on the total social self-efficacy scores (Table 5).

Table 5 Effects of demographic variables on mean assertiveness social self-efficacy subscale scores

Variable	Responses	Number (%)	Assertiveness subscale scores			
			Mean±SD	T/F	df	p-value (p ≤0.05)
Age	Group I: 17-19 yrs.	275 (77.68%)	20.640±3.336	1.819	352	.070
	Group II: 20-21 yrs.	79 (22.32%)	19.860±3.422			
	No sibling	19 (5.37%)	20.578±3.594			
Sibling status	One sibling	186 (52.54%)	20.623±3.231	.506	2, 351	.603
	More than one sibling	149 (42.09%)	2.255±3.511			
	B.A.	70 (19.77%)	20.928±3.013			
Academic course	B.Com.	43 (12.15%)	20.907±3.061	1.516	2, 351	.221
	B.Sc.	241(68.08%)	2.928±3.013			
	Do you participate in any inter school/college sports competitions?	Yes	55 (15.54%)			
No	299 (84.46%)	20.438±3.324				

Table 5 Continued...

Variable	Responses	Number (%)	Assertiveness subscale scores			
			Mean±SD	T/F	df	p-value (p ≤0.05)
Do you participate in any other inter school/ college competitions?	Yes	111 (31.36%)	21.595±2.744	4.371	352	<.001
	No	243 (68.64%)	19.950±3.500			
Do you use the Internet?	Yes	352 (99.44%)	20.454±3.367			
	No	2 (0.56%)	22.500±3.535			
Do you believe that you are dependent on the Internet?	Yes	222 (62.71%)	20.594±3.187	.931	352	.352
	No	132 (37.29%)	20.250±3.649			
Do you use social media?	Yes	332 (93.79%)	20.509±3.321	.932	352	.352
	No	22 (6.21%)	19.818±4.019			
Do you believe that you are dependent on social media?	Yes	108 (30.51%)	20.731±3.202	.983	352	.326
	No	246 (69.49%)	20.349±3.435			
Do you consume any tobacco products?	Yes	3 (0.85%)	20.461±3.369			
	No	351 (99.15%)	21.000±4.358			
Do you consume alcohol?	Yes	10 (2.82%)	21.200±1.813			
	No	344 (97.18%)	20.445±3.399			
Do you believe that you are in control of your life?	Yes	173 (48.87%)	20.803±3.314	1.829	2, 351	.162
	No	141 (39.83%)	20.375±3.718			
	Not Sure	40 (11.30%)	20.078±3.305			

Statistical analysis of the Group subscale revealed significant differences for the variables age and participation in competitions excluding sports. Participants in the age group I (17-19 years) (M = 20.640, SD = 3.336) had significantly higher total scores on the group sub-scale compared to participants in age group II (20-21 years) (M = 19.860, SD = 3.422), $t(352) = 2.308, p = .022, CI [0.185, 2.327]$. Participants engaging in extracurricular competitions excluding

sports (M = 21.927, SD = 3.765) had significantly higher total scores on the group sub-scale compared to participants who did not participate in extracurricular competitions (M = 20.596, SD = 4.457), $t(352) = 2.732, p = .007, CI [.373, 2.289]$. All remaining demographic variables demonstrated no statistically significant effects on the total social self-efficacy scores (Table 6).

Table 6 Effects of demographic variables on mean group social self-efficacy subscale scores

Variable	Responses	Number (%)	Group Subscale Score			
			Mean±SD	T/F	df	p-value (p ≤0.05)
Age	Group I: 17-19 yrs.	275 (77.68%)	20.640±3.336	2.308	352	.022
	Group II: 20-21 yrs.	79 (22.32%)	19.860±3.422			
	No sibling	19 (5.37%)	22.894±4.306			
Sibling status	One sibling	186 (52.54%)	20.994±4.083	2.025	2, 351	.134
	More than one sibling	149 (42.09%)	20.798±4.509			
	B.A.	70 (19.77%)	21.314±4.642			
Academic course	BCom.	43 (12.15%)	21.418±4.078	.527	2, 351	.591
	BSc.	241 (68.08%)	20.854±4.231			
Do you participate in any inter-school/college sports competitions?	Yes	55 (15.54%)	21.509±4.242	.930	352	.353
	No	299 (84.46%)	20.923±4.302			
Do you participate in any other inter-school/college competitions?	Yes	111 (31.36%)	21.927±3.765	2.732	352	.007
	No	243 (68.64%)	20.596±4.457			
Do you use the Internet?	Yes	352 (99.44%)	20.994±4.283			
	No	2 (0.56%)	24.500±6.363			
Do you believe that you are dependent on the Internet?	Yes	222 (62.71%)	21.081±4.242	.380	352	.704
	No	132 (37.29%)	20.901±4.387			
Do you use social media?	Yes	332 (93.79%)	21.084±4.231	1.196	352	.232
	No	22 (6.21%)	19.954±5.112			

Table 6 Continued...

Variable	Responses	Number (%)	Group Subscale Score			
			Mean±SD	T/F	df	p-value (p ≤0.05)
Do you believe that you are dependent on social media?	Yes	108 (30.51%)	21.388±4.438	1.089	352	.277
	No	246 (69.49%)	20.849±4.225			
Do you consume any tobacco products?	Yes	3 (0.85%)	23.000±7.000			
	No	351 (99.15%)	20.997±4.273			
Do you consume alcohol?	Yes	10 (2.82%)	20.300±4.001			
	No	344 (97.18%)	21.034±4.303			
	Yes	173 (48.87%)	21.443±4.144			
Do you believe that you are in control of your life?	No	141 (39.83%)	20.425±4.343	1.757	2, 351	.174
	Not Sure	40 (11.30%)	20.652±4.430			

Statistical analysis of the Public Performance subscale revealed significant differences for the variables academic course, participation in sports competitions, and participation in competitions excluding sports. Participants who studied B Com. (M = 15.837, SD = 2.458) had significantly higher total scores on the public performance subscale compared to participants who studied B.A. (M = 15.571, SD = 3.214) and BSc. (M = 14.871, SD = 2.862), F (2, 351) = 3.066, p = .048, CI [0.000, .049]. Participants engaging in interschool/college sports competitions (M = 16.327, SD = 2.502) had significantly higher total scores on the public performance subscale compared

to participants who did not participate in sports (M = 14.906, SD = 2.927), t(352) = 3.379, p = <.001, CI [.594, 2.248]. Participants engaging in extracurricular competitions excluding sports (M = 16.108, SD = 2.691) had significantly higher total scores on the public performance sub-scale compared to participants who did not participate in extracurricular competitions (M = 14.679, SD = 2.898), t(352) = 4.400, p = <.001, CI [.790, 2.067]. All remaining demographic variables demonstrated no statistically significant effects on the total social self-efficacy scores (Table 7).

Table 7 Effects of demographic variables on mean public performance social self-efficacy subscale scores

Variable	Responses	Number (%)	Public performance subscale score			
			Mean±SD	T/F	df	p-value (p ≤0.05)
Age	Group I: 17-19 yrs.	275 (77.68%)	15.243±2.905	1.408	352	.160
	Group II: 20-21 yrs.	79 (22.32%)	14.721±2.899			
Sibling status	No sibling	19 (5.37%)	15.684±2.539	1.309	2, 351	.271
	One sibling	186 (52.54%)	15.290±2.723			
	More than one sibling	149 (42.09%)	14.852±3.156			
Academic course	B.A.	70 (19.77%)	15.571±3.214	3.066	2, 351	.048
	BCom.	43 (12.15%)	15.837±2.458			
	BSc.	241 (68.08%)	14.871±2.862			
Do you participate in any inter school/college sports competitions?	Yes	55 (15.54%)	16.327±2.502	3.379	352	<.001
	No	299 (84.46%)	14.906±2.927			
Do you participate in any other inter school/college competitions?	Yes	111 (31.36%)	16.108±2.691	4.400	352	<.001
	No	243 (68.64%)	14.679±2.898			
Do you use the Internet?	Yes	352 (99.44%)	15.122±2.899			
	No	2 (0.56%)	16.000±5.656			
Do you believe that you are dependent on the Internet?	Yes	222 (62.71%)	15.112±2.910	.122	352	.903
	No	132 (37.29%)	15.151±2.914			
Do you use social media?	Yes	332 (93.79%)	15.159±2.854	.817	352	.415
	No	22 (6.21%)	14.636±3.671			
Do you believe that you are dependent on social media?	Yes	108 (30.51%)	15.296±2.829	.725	352	.469
	No	246 (69.49%)	15.052±2.944			
Do you consume any tobacco products?	Yes	3 (0.85%)	14.333±2.516			
	No	351 (99.15%)	15.133±2.913			
Do you consume alcohol?	Yes	10 (2.82%)	15.200±2.299			
	No	344 (97.18%)	15.125±2.926			
	Yes	173 (48.87%)	15.433±2.845			
Do you believe that you are in control of your life?	No	141 (39.83%)	14.725±3.137	1.924	2, 351	.147
	Not Sure	40 (11.30%)	14.865±2.898			

Statistical analysis of the Giving/Receiving help subscale revealed significant differences for the variables age and participation in competitions excluding sports. Participants in the age group I (17-19 years) (M = 12.538, SD = 1.906) had significantly higher total scores on the giving/receiving help sub-scale compared to participants in age group II (20-21 years) (M = 12.000, SD = 2.100), $t(352) = 2.161$, $p = .031$, CI [.048, 1.028]. Participants engaging in extracurricular

competitions excluding sports (M = 12.846, SD = 1.526) had significantly higher total scores on the group sub-scale compared to participants who did not participate in extracurricular competitions (M = 12.222, SD = 2.104), $t(352) = 2.807 = .005$, CI [.187, 1.062]. All remaining demographic variables demonstrated no statistically significant effects on the total social self-efficacy scores (Table 8).

Table 8 Effects of demographic variables on mean giving/receiving help social self-efficacy scores

Variable	Responses	Number (%)	Giving/Receiving help subscale scores			
			Mean±SD	T/F	df	p-value (p ≤0.05)
Age	Group I: 17-19 yrs.	275 (77.68%)	12.538±1.906	2.161	352	.031
	Group II: 20-21 yrs.	79 (22.32%)	12.000±2.100			
Sibling status	No sibling	19 (5.37%)	12.526±2.294	2.008	2, 351	.136
	One sibling	186 (52.54%)	12.602±1.920			
Academic course	B.A.	70 (19.77%)	12.671±2.048	1.305	2, 351	.272
	B.Com.	43 (12.15%)	12.651±1.461			
Do you participate in any inter-school/college sports competitions?	Yes	55 (15.54%)	12.381±1.929	.149	352	.882
	No	299 (84.46%)	12.424±1.970			
Do you participate in any other inter-school/college competitions?	Yes	111 (31.36%)	12.846±1.526	2.807	352	.005
	No	243 (68.64%)	12.222±2.104			
Do you use the Internet?	Yes	352 (99.44%)	12.420±1.953			
	No	2 (0.56%)	12.000±4.242			
Do you believe that you are dependent on the Internet?	Yes	222 (62.71%)	12.477±1.865	.279	352	.461
	No	132 (37.29%)	12.318±2.116			
Do you use social media?	Yes	332 (93.79%)	12.448±1.934	1.145	352	.253
	No	22 (6.21%)	11.954±2.339			
Do you believe that you are dependent on social media?	Yes	108 (30.51%)	12.342±1.890	.479	352	.632
	No	246 (69.49%)	12.452±1.994			
Do you consume any tobacco products?	Yes	3 (0.85%)	11.333±1.154			
	No	351 (99.15%)	12.427±1.965			
Do you consume alcohol?	Yes	10 (2.82%)	12.500±1.649			
	No	344 (97.18%)	12.415±1.971			
Do you believe that you are in control of your life?	Yes	173 (48.87%)	12.641±1.988	2.255	2, 351	.106
	No	141 (39.83%)	12.125±1.620			
	Not Sure	40 (11.30%)	12.227±1.997			

Discussion

The aim of this study was to explore how various socio-demographic factors interacted with the social self-efficacy of female adolescents and young adults as a part of an ongoing multicentric study aimed at increasing social self-efficacy in Indian school and college students. This study used independent samples t-test and one-way ANOVA tests to examine the impact of several variables such as age, sibling status, academic course, participation in competitions, participation in sports competitions, internet usage, dependence on the internet, social media usage, dependence on social media, alcohol consumption, tobacco consumption, and self-perception of control over one's life on SSES scores. The results of the statistical analysis are discussed below.

Contrary to the hypothesis, participants in age group I (17-19

years) demonstrated significantly higher total SSES scores compared to participants in age group II (20-21 years). This finding suggests that younger individuals reported greater social self-efficacy compared to older individuals. Similar findings were shown in the friendship/intimacy subscale, group subscale, and giving/receiving help subscale. This result does not align with prior expectations or research and needs further investigation into additional variables that may have influenced this result. Although plenty of research investigates the relationship of self-efficacy with age, none investigate the relationship between social self-efficacy and age. Hence, this study provides a unique insight into the role of age and social self-efficacy. A possible explanation of this finding may be that since this is a self-reported variable, this pattern of better self-perception may be seen in younger people due to inflated self-perception. Whereas slightly older and more mature individuals may perhaps question themselves more.

The hypothesis that participants with one or more siblings would have higher SSES scores compared to those with no siblings was not supported as there were no significant differences between the SSES scores of participants in all three categories. However, there was partial support for participants with no siblings having higher SSES scores as they had significantly higher scores on the friendship/intimacy subscale. This suggests that having no siblings may be helpful in developing social self-efficacy. However, this finding is contrary to the hypothesis and previous research. The findings indicate that having siblings may not influence social self-efficacy at all and having no siblings might aid with higher social self-efficacy when making and maintaining friendships. Although there is no notable research which measures the relationship between sibling status and social self-efficacy, research investigating the familial bond between adolescents and their parents suggests that high social self efficacy is related to higher parental attachment. The results of this study regarding familial bond could be extended to siblings³⁸. However, the results of our study show contrasting findings. A possible explanation for these findings may be that single children have higher motivation to create and maintain friendships compared to children who have siblings. This may be because children with siblings do not lack companionship however, single children may feel a lack of companionship and as a result, are motivated to develop social skills to maintain friendships.

No hypothesis was formulated regarding differences in SSES scores based on academic courses, and this variable was used as an observational measure. Nevertheless, participants studying B Com had significantly higher scores on the public performance subscale compared to those studying B.A. or BSc. This unexpected finding may warrant further investigation to understand the underlying factors.

The hypothesis that participants who participate in competitions would have higher SSES scores compared to those who do not was supported. Participants engaging in extracurricular competitions excluding sports had significantly higher total SSES scores, particularly on the assertiveness, group, public performance, and giving/receiving help subscales. As expected, the findings suggest that participation in competitive activities can positively impact social self-efficacy. These findings are in line with the previous research as a study with high school and vocational school students in China revealed that social self-efficacy was positively related to participation intention in English language competitions.¹⁶

The hypothesis that participants who participated in sports competitions had significantly higher SSES scores compared to those who did not participate in sports competitions was partially supported. Participants who participated in sports did not have higher Total SSES scores. However, they did have higher SSES scores in the public performance subscale. Other subscales did not show any significant results regarding this variable. This finding aligns with previous research that suggests that individuals who perceive higher social self-efficacy may participate in more competitions that require public performance. Research investigating the relationship of social self-efficacy and sports participation is scarce. A study assesses the sport participation of at-risk boys between the aged 10 to 13 years at a summer sports camp³⁹. The results of this research provide findings in favor of social self-efficacy being positively related to sports competition. However, it is not comparable to our study, measuring the social self-efficacy of adolescent and young adult women. Hence, there still needs to be further investigation into this variable and its relationship with social self-efficacy.

All the remaining hypotheses pertaining to the variables internet usage, dependence on the internet, social media usage, dependence

on social media, alcohol consumption, tobacco consumption, and perceived control over one's life were not supported. Possible explanations for the results regarding social media dependence, internet dependence, alcohol use, and tobacco use might be social desirability bias. A study measuring the role of social self-efficacy in refusing alcohol for problem drinkers mediated a significant percentage of the variance in their treatment outcomes.²¹ If the social self-efficacy to refuse alcohol plays such a significant role in reducing alcohol use, the social self-efficacy of accepting alcohol may possibly play a significant role in increasing alcohol use. Participants' responses may not reflect their actual behaviors but what they think is socially desirable. Additionally, research shows that social self-efficacy is negatively related to internet addiction and positively related to academic locus of control for participants aged 17 to 21 years.⁴⁰ These results were not replicated in the present study.

This study has a few key limitations. A major limitation was the sample. Not only was the sample collected from a sole university through convenience sampling, but also had only female participants. Hence, the generalizability of this sample to the wider population is questionable. This study used self-report measures which may have skewed the data due to various biases such as social desirability. Furthermore, the research regarding the validity of the scale used in the study for Indian samples is very limited. It is possible that the scale may not be valid for use in more culturally and ethnically diverse samples such as an Indian all-women's university.

Conclusion

The total and subscores SSES showed a wide range. The total SSES ranged from a minimum of 47 to a maximum of 125 (M = 96.000, SD = 14.667). The SSE SSES subscores on the Friendship/Intimacy ranged from a minimum of 11 to a maximum of 35 (M = 26.975, SD = 4.913). The SSES subscores Assertiveness ranged from a minimum of 9 to a maximum of 25 (M = 20.466, SD = 3.366). The SSES subscores Group subscale ranged from a minimum of 8 to a maximum of 30 (M = 21.014, SD = 4.292). The SSES subscores Public Performance Subscale ranged from a minimum of 6 to a maximum of 20 (M = 15.127, SD = 2.908). The SSES subscores on the Giving 'Receiving Help subscale ranged from a minimum of 6 to a maximum of 15 (M = 12.418, SD = 1.961).

On comparing the effects of various demographic variable on the SSES we found that self-efficacy is related positively to young age {(M = 97.018, SD = 14.235), $t(352) = 2.454$, $p = .015$, CI [.906, 8.219]}, participation in competitions other than sports {(M = 100.108, SD = 13.890), $t(352) = 3.622$, $p = <.001$, CI [2.735, 9.234]}.

The relationship between social self-efficacy and study courses showed a partial relationship with total SSES in the public performance subscale with participants who studied BCom having significantly higher scores {(M = 15.837, SD = 2.458), $F(2, 351) = 3.066$, $p = .048$, CI [.000, .049]}. A partial relationship with SSES and having no siblings was shown in the Friendship/Intimacy subscale {(M = 28.684, SD = 4.679), $F(2, 351) = 7.311$, $p = <.001$, CI [.008, .084]}. Sports participation and SSES were partially related in the Public Performance subscale {(M = 16.327, SD = 2.502), $t(352) = 4.400$, $p = <.001$, CI [.790, 2.067]}. No significant relationships were found between social self-efficacy and internet usage, social media usage, substance use, and locus of control.

The results to sibling status were notable as they go against established research about the positive relationship between social efficacy and familial attachment. Additionally, the results pertaining to age reflect a surprising result regarding social self-efficacy that

goes against previously established results regarding an increase in self-efficacy with age. Results may be attributed to limitations such as limited convenience sampling, social desirability bias. Future recommendations for research are using a broader and more diverse sample to increase generalizability. Longitudinal studies tracking changes in social self-efficacy could also be helpful in establishing the trajectory of the development of this trait. Further qualitative analysis using semi-structured interviews could offer explanations for the results of this study.

Limitations

A major limitation was that the sample was a convenience sample, collected from only one college which had only female students. Hence, the generalizability of this sample to the wider population needs more studies that include with both genders and different age groups.

This study used self-report measures which are known to have the probability of skewed data due to various individual biases such as wanting to have social desirability and answering with this bias. We did not get any studies that has previously used this scale in Indian cohorts.

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Conflicts of interest

There is no conflicts of interest.

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