

THE PROMISE OF EXTRA-CURRICULAR CLUB PARTICIPATION FOR HIGH SCHOOL STUDENTS WITH **A**UTISM **S**PECTRUM **D**ISORDER

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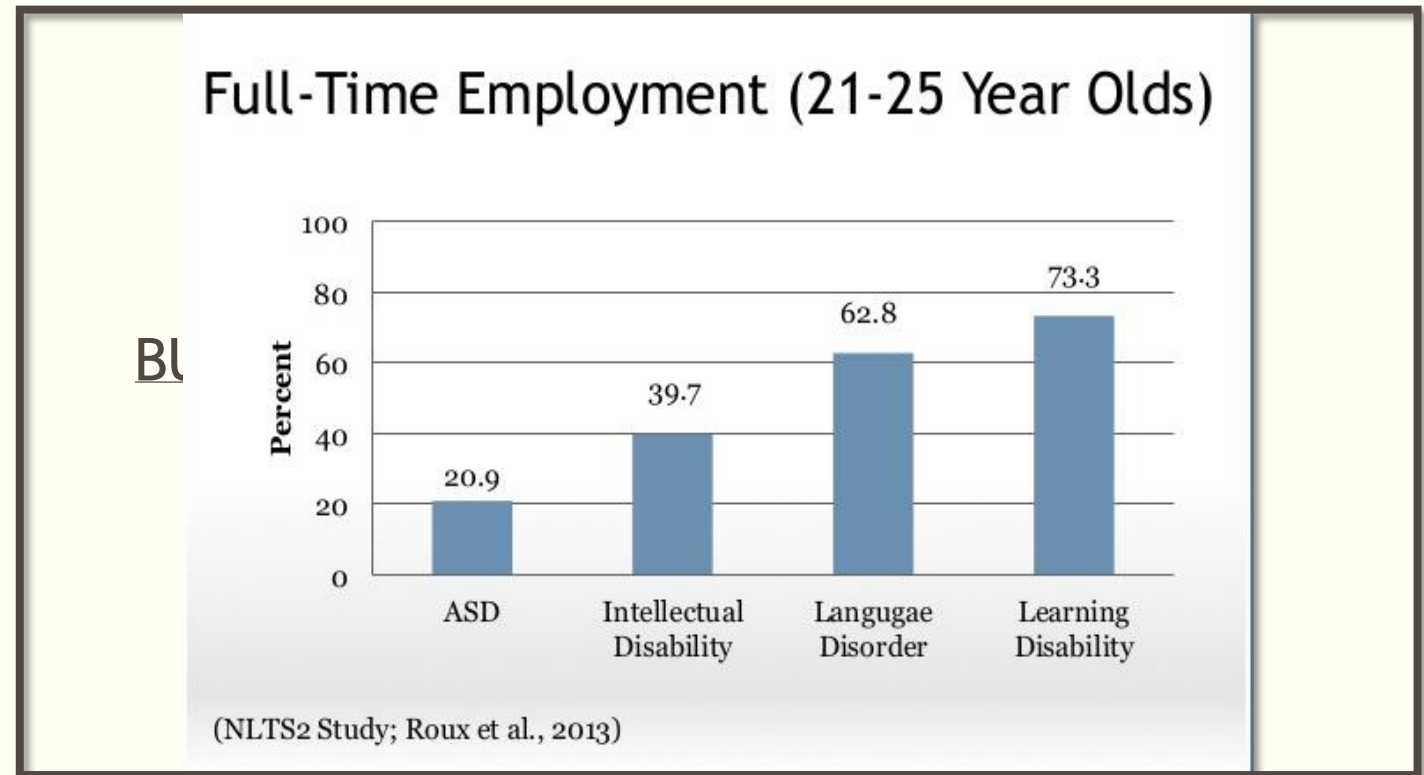
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Post School Outcomes for Students with Autism

- ◆ NLTS-2 data indicate that only 21% of students with ASD secure full-time employment after high school
- ◆ The lowest rate of employment of **any disability category**
- ◆ Estimates are that over half of children identified with ASD have **average or above average intellectual ability** (CDC, 2014)

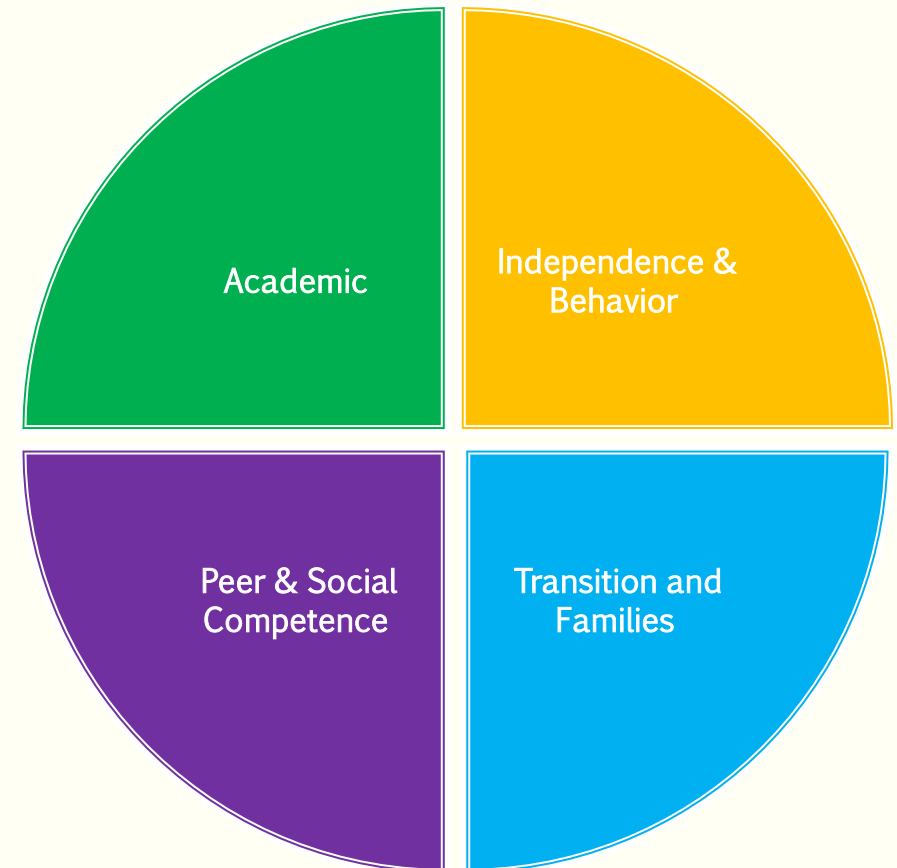


CSESA Randomized Controlled Trial Funded by IES

Center on Secondary Education for Students with Autism Spectrum Disorder

Awarded to Kara Hume & Sam Odom
University of North Carolina – Chapel Hill

- ❖ 1,800 consented participants
- ❖ 547 adolescents with ASD
- ❖ 30 school districts across 3 states
- ❖ 60 schools – 20 Each in NC, WI, & CA
- ❖ Professional development and coaching provided to A teams in each school for 2 years
- ❖ Families included as key partners in process



Challenges Implementing Interventions with Students Included Full-Time in General Education

- Schedules are Full
- Focus on academics for college entrance
- Case managers have large case loads and do not know individual student needs very well
- Students without intellectual disability (ID) may not want to hang out with those with ID
- Students do not want to be singled out

Why Not Clubs?

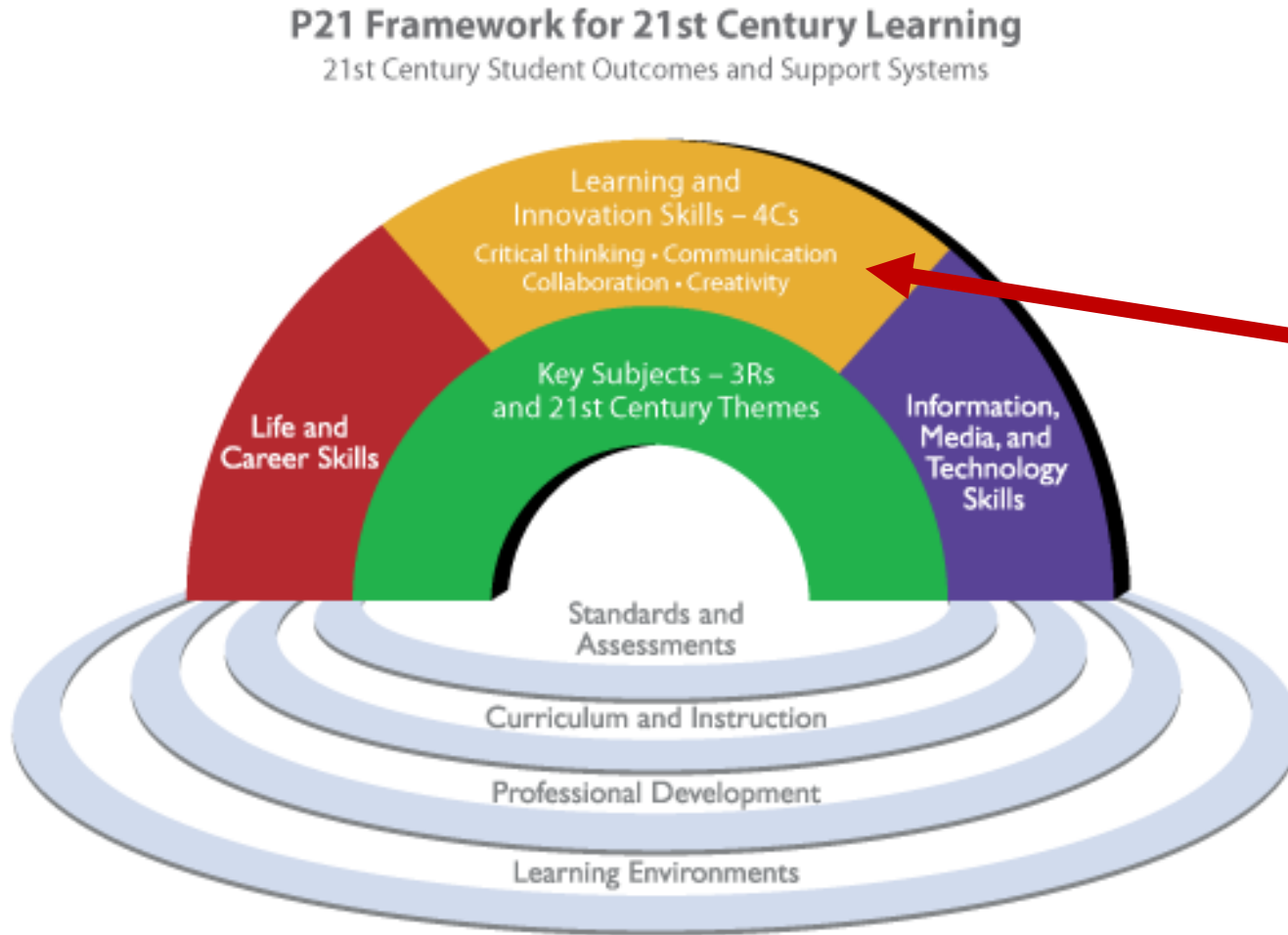
Relatively few studies documenting effective naturalistic social interventions for high school students with ASD:

- **Koegel, R. L.**, Fredeen, R., Kim, S., Danial, J., Rubinstein, D., & Koegel, L. K. (2012). Using perseverative interests to improve interactions between adolescents with autism and their typical peers in school settings. *Journal of Positive Behavior Interventions*, 14(3), 133- 141.
 - Designed clubs around the interests of **3 students** with ASD & Implemented club intervention using a multiple-baseline design
 - Found that participant **engagement** and **initiations** with peers increased during the club intervention
- **Carter, E. W.**, Asmus, J., Moss, C. K., Amirault, K. A., Biggs, E. E., Bolt, D., ...Wier, K. (2016). Randomized evaluation of peer support arrangements to support the inclusion of high school students with severe disabilities. *Exceptional Children*, 82, 209-233.
 - Evaluated the use peer supports on the interactions and academic participation of high school **4 students** with ASD using a multiple-baseline-across-participants design
 - **Significant increases in peer interactions** were evident for all four participants, as well as smaller increases in initiations

Foundational Literature

- **Agran, M.,** Achola, E., Nixon, C. A., Wojcik, A., Cain, I., Thomas, C., . . . Tamura, R. B. (2017). Participation of students with intellectual and developmental disabilities in extracurricular activities: Does inclusion end at 3:00? *Education and Training in Autism and Developmental Disabilities*, 52(1), 3-12.
- Surveyed 143 special educators about their students' participation in extracurricular activities
- Teachers reported that **students rarely participate** in school-based extracurricular activities (62%), and that students **rarely express interest** in becoming involved with such activities (47%)
- 74% reported that they **didn't consider it their responsibility** to facilitate or monitor extracurricular activities
- The opportunity to **practice social communication and functional skills** (56%) was most commonly ranked as the most important benefit associated with participating in extracurricular activities

21st Century Skills Should Be a Focus for **ALL** Students



- All students can benefit
- U.S. Department of Education is focusing on “*college and career readiness*”
- Clear overlap in opportunity areas for students with ASD to work on

Research Questions

1.
 - a) What is the content of the extracurricular high school clubs that attract student participants with ASD?
 - b) According to the faculty advisors of these clubs, what is the stated mission or goals of these clubs?
2.
 - a) How do students get involved in extracurricular clubs on high school campuses?
 - b) Are there barriers to participation in extracurricular clubs for students with ASD?
3. What are the opportunities for peer engagement in social interaction during extracurricular clubs for students with ASD?
4.
 - a) Do student participants in high school clubs have the opportunity to work on the 4C's of 21st Century Skills in these clubs (Creativity, Critical Thinking, Collaboration, and Communication)?
 - b) Are there barriers to working on 21st Century Skills during extracurricular club meetings?
5. What do students with ASD report about their experiences in high school clubs, including the experiences they value, the aspects they identify as challenges, and

A Mixed Methods Approach

“Mixed methods research has come of age. To include only quantitative and qualitative methods falls short of the major approaches being used today in the social and human sciences.”

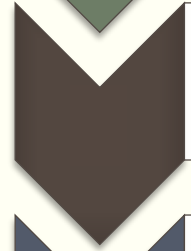
-John W. Creswell, 2003, p. 4

- Through the use of a mixed methods approach, this exploratory study was conducted in the final semester of the Center on Secondary Education for Students with Autism Spectrum Disorders (CSESA) intervention period
- Specifically, this research intended to explore the role that extracurricular clubs on high school campuses might serve for students with autism spectrum disorder (ASD) who don't have concurrent ID and who are expected to graduate with a diploma.

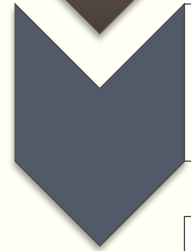
Data Collection Procedures



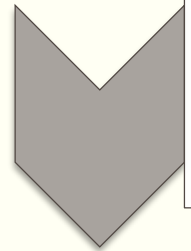
- EMAILED SURVEYS TO LISTS OF POTENTIAL SPECIAL EDUCATOR & CLUB ADVISOR PARTICIPANTS



- SCHEDULED AND CONDUCTED CLUB OBSERVATIONS



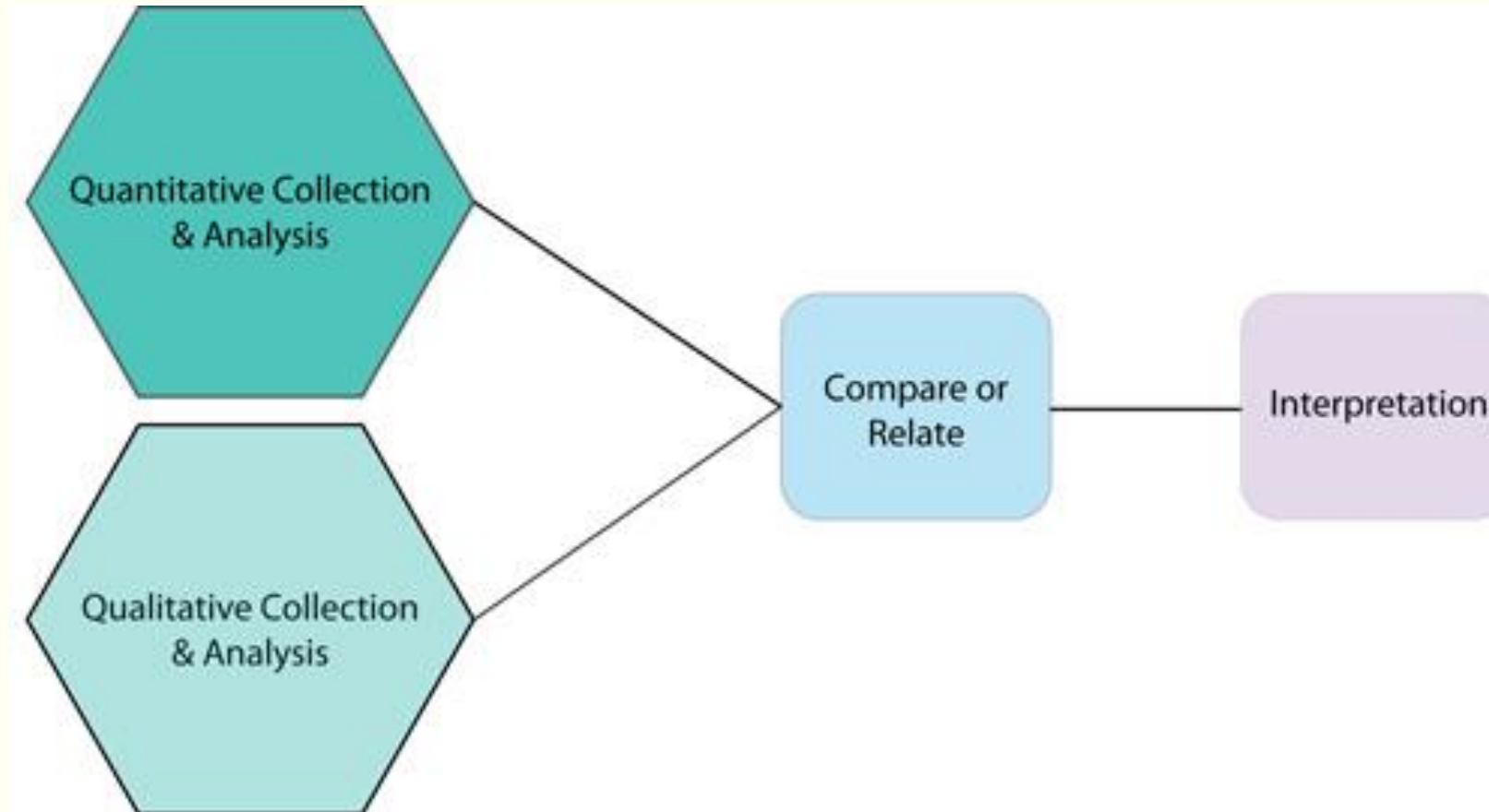
- SCHEDULED AND CONDUCTED STUDENT INTERVIEWS



- TRANSCRIBED INTERVIEWS FOR CODING, INPUT OBSERVATIONAL DATA, AND IMPORTED SURVEY DATA FOR ANALYSIS

Analysis

Concurrent mixed methods triangulation design



Participants

- **Special educators ($N=34$):**
 - Predominately female (76%), ranging in years of teaching experience from two to 33 years
 - All members of their school's CSESA team
 - All work closely with students with ASD
 - Teachers credentialed to work with students that have both mild/moderate and moderate/severe teaching credentials were included in pool which was surveyed
- **Club advisors ($N=38$):**
 - Club advisors were half male and half female, with a range of one to 34 years of experience in the classroom.
 - Served as extracurricular club advisors at 18 CSESA schools in San Diego
 - Responsible for organizing, and supervising, extracurricular activities
 - Not familiar with CSESA

Participants

Table 1

Student Participants

Name	Age	Gender	Club	Role	% in General Education
Harry*~	17	M	Stage Crew Club	Member	100%
Courtney*~	16	F	Girls Learn International	Member	67%
Luke*~	18	M	Video Game Club	Founder/President	67%
Tyrese*~	16	M	Movie Club	Founder/President	67%
Steven*~	18	M	International Club	Leadership Team	83%
Jesus*	17	M	Cyber Security Club	Founder/Vice President	100%
Roberto~	16	M	Star Wars Club	Member	100%
Stefana~	18	F	Tabletop Game Club	President	67%

* *indicates student who was interviewed as part of the study*

~ *indicates student who was observed as part of the study*

Instruments

- **Special Education Teacher Extracurricular Survey:**
 - Distributed to special educators in regard to their students with ASD and participation in clubs
(response rate – 38%)
- **Extracurricular Club Advisor Inventory:**
 - Distributed to club advisors to gain more detailed information about the clubs that they manage, as well as the participation of students with ASD in their clubs
(response rate – 9%)

Instruments

Club Observation Sheet:

Appendix C CSESA Club Observation Sheet

Student Code: _____

Club: _____

Activity: _____

Date: _____

Start Time: _____

Primary observer: _____

IOA observer: _____

Persons in classroom (start / end)

General educators: _____ | _____

Special educators: _____ | _____

Paraprofessionals: _____ | _____

Students with ASD: _____ | _____

Total Students in Club: _____ | _____

Club Setting

FULL All students

SM: 2 to 7 students

IN: Individual student

NST: No structured activity

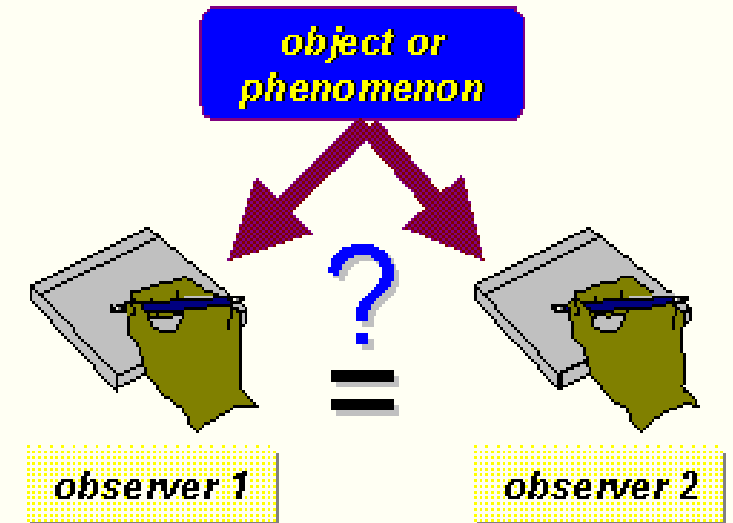
GN: Gone from room

1

Interval and Time (circle bell ring)		Observe at :50 and circle (momentary time sampling)				Observe from :00 to :30; record from :30 to :50 (partial interval recording)								Club Setting Notes		
Int.	End Time	21 st Century Skill Focus				Social Behaviors: From Focus to:				Social Behaviors: To Focus from:				Did Focus initiate?		
1	0:50	CRE <small>Creativity</small>	CT <small>Critical Thinking</small>	COL <small>Collaboration</small>	COM <small>Communication</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	Y	N	
2	1:50	CRE <small>Creativity</small>	CT <small>Critical Thinking</small>	COL <small>Collaboration</small>	COM <small>Communication</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	Y	N	
3	2:50	CRE <small>Creativity</small>	CT <small>Critical Thinking</small>	COL <small>Collaboration</small>	COM <small>Communication</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	Y	N	
4	3:50	CRE <small>Creativity</small>	CT <small>Critical Thinking</small>	COL <small>Collaboration</small>	COM <small>Communication</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	Y	N	
5	4:50	CRE <small>Creativity</small>	CT <small>Critical Thinking</small>	COL <small>Collaboration</small>	COM <small>Communication</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	P <small>Peer</small>	SWD <small>Student with ASD</small>	GE <small>Gen. Ed. Staff</small>	SE <small>Sp. Ed. Staff</small>	Y	N	

Observational Inter-observer Agreement

- IOA was assessed for point-by-point agreement during 20% of observation sessions, and was balanced across students (one IOA session each)
- The **overall inter-observer agreement between observers was 98.6%**, ranging from 96.4% (Tabletop Game Club) to 99.6% (Girls Learn International Club)
- 21st century skill focus IOA: creativity (98%), critical thinking (100%), collaboration (99%) and communication (98%)
- Club format IOA was 100% across all four settings (full group, small group, individual activity, and no structured activity)



Instruments

Student Interview Protocol:

- (1) Would you describe for me the types of things that you like to do in your free time?
- (2) How did you find out about the club?
- (3) Did you choose to join the _____ club?
- (4) Do you like participating in this club?
- (5) What is the best part about being in this club?
- (6) Has your case manager ever talked to you about clubs or activities on campus?
- (7) What is the hardest part about being in a school club?
- (8) Do you ever skip club meetings?
- (9) Do you feel like there is anything stopping you from joining clubs that you want to join?
- (10) Do you think there is anything that can, or should, be done to address these barriers to joining clubs?
- (11) In this club, do you talk to your peers about the activities you are doing?
- (12) Do you have any friends in the club you're in?
- (13) Are you involved in any other clubs besides _____?
- (14) If you could start a school club, what would it be?

Q 1a- What is the content of the extracurricular high school clubs that attract student participants with ASD?

- Special Educators reported a wide variety of activities and interests:
 - video gaming (15)
 - table games (8)
 - animation (7)
 - dance (5)
 - sports (5)
 - food (4)
 - movies (4)
 - computers/technology (4)
- Areas of **interest** reported by both staff and students center **heavily on technology**, such like video games, computer-based activities, and film. There was also agreement on art/animation, “fandom”, reading, and table top games

Q 1b- According to the faculty advisors of these clubs, what is the stated mission or goals of these clubs?

Club advisors were asked to provide club goals or mission statement, 43 statements were collected from 38 participants

- The most frequently listed missions for clubs were:
 - to practice skills (21)
 - to have fun (19)
 - to make friends (18)
 - to broadening student perspectives (13)
 - to grow interest/knowledge in a particular area (12)
 - to serve the community (8)
- These goals seemingly align with the concept of utilizing club contexts for students to practice 21st century skills, including social communication skills.
- 58% of club advisors reported that their club currently served at least one participant with ASD

Q 2a- How do students get involved in extracurricular clubs on high school campuses?

- Most students ($n=5$) reported that **Club Day events** were the way that clubs are promoted at their schools



Q 2a- How do students get involved in extracurricular clubs on high school campuses?

- Courtney and Steven mentioned that club activities are promoted in the daily or weekly **school announcements**
- Harry and Jesus found out about their clubs **through flyers and/or posters** placed around the school to promote club events
- Half of the students interviewed (Courtney, Steven and Jesus) expressed that **a staff member** at their school was integral in the process of joining their club



Q 2a- How do students get involved in extracurricular clubs on high school campuses?

- How **often do you promote** opportunities to get involved in clubs to students with ASD?
 - Club Advisors:
 - **32% never**, or seldom, do
 - 26% sometimes do
 - **44% often** or almost always do
 - Special Educators:
 - 3% seldom do
 - 21% sometimes do
 - **76% often** or almost always do.
- **Special educators are more likely to promote club activities** to students with ASD than club advisors

Q 2b- Are there barriers to club participation for students with ASD?

Perceived Barriers to Club Participation

Barrier	Special Educators (N= 34)	Club Advisors (N= 38)
Students are not interested in participating	26	17
Social challenges that might arise in extracurricular settings deter students from joining	19	20
Transportation is not available if student participates in extracurricular activities	22	13
Students do not know how to go about joining activities	17	12
Students are unaware of extracurricular opportunities that exist at school *	11	14

Activities offered at my school don't match student interests	12	6
Student schedule doesn't allow for participation	8	6
Students may be bullied in extracurricular settings	5	5
Extracurricular activities are not welcoming to students with ASD	3	2
Other:	<ul style="list-style-type: none"> -“Parents afraid” -“No extra staffing provided to support” -“Not enough staffing or parent assistance” 	<ul style="list-style-type: none"> -“We are not allowed to access which students have an IEP. I don't know how I would market to these students.” - “Aides are not paid/ available for after school activities” - “A challenged student may need supervision/support to participate and benefit from this activity” -“I've no idea why they do not participate. No need or no want?”

*Barrier which was also mentioned by student participants in the study

Q 2b- Are there barriers to club participation for students with ASD?

- Staff view **lack of student interest** (and family support) as barriers to participation, along with:
 - Transportation
 - Social Challenges
 - Students “don’t know how” to join
- 30% of Special Educators “disagree” that they themselves are **aware of all of the club offerings available** at their school



Q 3- What are the opportunities for peer engagement and social interaction during extracurricular clubs for students with ASD?

- Of 34 Special Educators, 27 mentioned that **social skill development** was among the most important reasons for students with ASD to participate in clubs
- “My students with ASD have experienced improved or increased peer interactions since joining a school-sponsored extracurricular activity”
 - **75% “strongly agree” or “agree”**
 - 21% were “undecided”
 - Only 1 participant (3%) rated that they “disagree”

Q 3- What are the opportunities for peer engagement or social interaction during extracurricular clubs for students with ASD?

- The average percentage of intervals in which students engaged with others socially, across all participants, was 62%
- This ranged from engagement in an average of 43% of measured intervals (Courtney-GLI) to 92% of measured intervals (Luke- Video Game Club)

Interviewer: Why is it easier to talk to others in a club than at lunch, for example?

Courtney: Because at lunch you like ... there's like all these people around campus and you don't even know who is who, or what is what, or what anyone's talking about. Versus, like in clubs, it kind of narrows down your options, so you, like, know everyone's tastes or likes better. You can talk about things and know what to talk about.



Q 3- What are the opportunities for peer engagement or social interaction during extracurricular clubs for students with ASD?

Summary of Observational Data Across Study

	Courtney	Luke	Tyrese	Steven	Roberto	Stefana
	Girls Learn	Video	Movie	International	Star Wars	Tabletop
Measure	International	Game Club	Club	Club	Club	Game Club
Social Interactions (%)						
Any initiations	15 (0-35)	68 (50-80)	37 (30-45)	60 (55-65)	32 (25-35)	63 (60-70)
Any interactions	43 (5-70)	92 (85-95)	45 (35-55)	67 (55-80)	52 (40-65)	72 (65-80)
Student i/r with typically-developing peer	25 (0-50)	67 (60-95)	18 (5-30)	60 (55-70)	45 (30-65)	67 (65-70)
Student i/r with peer with ASD	NA	32 (5-55)	NA	33 (30-35)	NA	13 (0-40)
Student to general educator	12 (0-20)	NA	32 (25-40)	33 (25-40)	10 (0-20)	NA
Student to special educator	NA	12 (0-20)	NA	NA	NA	27 (25-30)
Typically-developing peer i/r with student	35 (5-60)	75 (60-90)	18 (5-30)	50 (45-60)	47 (35-70)	65 (55-75)
Peer with ASD to student	NA	32 (0-55)	NA	27 (20-35)	NA	13 (0-40)
General educator to student	22 (5-35)	NA	28 (20-35)	28 (20-35)	13 (10-20)	NA
Special educator to student	NA	13 (0-25)	NA	NA	NA	25 (25-25)

Q 3- What are the opportunities for peer engagement or social interaction during extracurricular clubs for students with ASD?

Summary of Observational Data Across Study

	Courtney	Luke	Tyrese	Steven	Roberto	Stefana
	Girls Learn	Video	Movie	International	Star Wars	Tabletop
Measure	International	Game Club	Club	Club	Club	Game Club
Club Format (%)						
Full Group	77 (30-100)	95 (85-100)	33 (0-100)	88 (85-95)	62 (0-95)	0 (0-0)
Small Groups (>7)	23 (0-30)	0 (0-0)	67 (0-100)	7 (0-15)	33 (0-100)	97 (90-100)
Individual work	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)	0 (0-0)
No structured activity	0 (0-0)	5 (0-15)	0 (0-0)	5 (0-15)	5 (0-15)	3 (0-10)

- Full and small group activities provide students with the opportunity to communicate with others as part of a structured activity
- This is helpful when arranging natural opportunities for social communication practice to take place

Q 4a- Do student participants in high school clubs have the opportunity to work on the 4C's of 21st Century Skills in clubs?

Summary of Observational Data Across Study

	Courtney	Luke	Tyrese	Steven	Roberto	Stefana
	Girls Learn	Video	Movie	International	Star Wars	Tabletop
Measure	International	Game Club	Club	Club	Club	Game Club
21 st Century Skill						
Focus (%)						
Creativity	45 (10-100)	5 (0-10)	3 (0-10)	23 (20-30)	32 (0-80)	22 (0-50)
Critical Thinking	23 (0-45)	3 (0-10)	0 (0-0)	5 (0-15)	27 (0-80)	43 (15-65)
Collaboration	62 (40-90)	43 (10-80)	8 (0-15)	32 (15-60)	25 (15-45)	57 (15-100)
Communication	93 (90-100)	80 (60-95)	37 (20-45)	88 (70-100)	65 (30-100)	72 (45-100)

Note. The figures represent *M* (range)

i/r = initiating and/or receiving

Average percentage of intervals and range, across all six observed club settings:

critical thinking (*M*=17%, range: 0-43%), creativity (*M*=22%, range: 3-45%), collaboration (*M*=38%, range: 8-62%) and **communication (*M*=73%, range: 37-93%)**.

Q 4b- Are there barriers to working on 21st Century Skills during extracurricular club meetings? If so, what are these barriers?

- *If a student with ASD wanted to participate in the extracurricular activity that they supervise, would you be willing to embed strategies to support that student during the activity?*
 - 82% of club advisors responded yes
 - 18% responded yes, if it required minimal additions to their current role
- *Would you be willing to embed strategies that would support 21st century skill development for all students during the activity meetings?*
 - 97% of club advisors responded yes
 - 3% responded no

Q 5- What do **students with ASD** report about their experiences in high school clubs?

- Several students with ASD started their own club (Tyrese, Luke, and Jesus) and others were members of their clubs' leadership team (Stefana, Steven)
- All of the students considered club meetings highlights of their week, and felt that clubs were fun
- All students appreciated or enjoyed the opportunity to connect and communicate with like-minded peers in club settings
- Several students felt their club experiences would lead to or influence a career path in a related area

Q 5- What do students with ASD report about their experiences in high school clubs?

Interviewer: Do you think that students who aren't in clubs should get involved?

Steven: I really think they should. They really enhance your [school] experience. It gives you some stuff to do if you're not involved with a group of friends already. It gives you something to do during a lunch time, and gives you more involvement. You can learn new things that you probably wouldn't learn about in your classes.

Q 5- What do students with ASD report about their experiences in high school clubs?

Interviewer: What do you think is the hardest part about being in a school club?

Jesus: I guess the leadership position, because you get to realize it's a lot of responsibility. Like, we had some meetings recently and the president, I think he was in charge of the calendar, but he didn't update it, and since I was one of the leaders, I don't know... I guess the club advisor was kind of disappointed, because I was also a leader, so I was supposed to be doing that, like maybe helping him a little bit more. It's a big responsibility.

Summary of Major Findings

- **Clubs Match Interest Areas of Students with ASD**

- *Some students with ASD are already participating!*
- *Students are even starting their own clubs*

- **Students May Need Help Getting Involved in Clubs**

- *Special educators report that they frequently promote club opportunities to their students with ASD, but these students often require an additional “push”*
- *Club day events*
- *Advertisements*
- *Being invited to participate by a trusted staff member*

Summary of Major Findings

- **Clubs Provide Natural Opportunities for Social Communication**

- Frequent opportunities to communicate with their peers (68%)
- The format of clubs (large and small group activities) promote interaction
- Centered around topics of interest
- Club advisors report prioritizing activities which promote interaction

- **Clubs Provide Opportunities for 21st Century Skill Building**

During observed club meetings, 21st century skills were being worked on relatively frequently.

- Critical Thinking (17%)
- Creativity (22%)
- Collaboration (38%)
- Communication (73%)

Summary of Major Findings

- **Students Value Clubs for a Variety of Reasons**

- Safe spaces for making friends*
- Connects them with a group of peers and staff members who share interests*
- Supports an enhanced sense of school community that is difficult to create when communication is a challenge*
- Practice skills or participate in activities not offered in content area classes*

- **Clubs Can Shape Future Career Plans**

- Club experiences can contribute to the formulation of post-secondary goals*
- Give students the chance to practice non-content specific skills that are relevant to being a member of the workforce*

Implications for Practice

- Schools should **consider the opportunities** that all students, but particularly those with disabilities, have to explore and learn about extracurricular opportunities on campus.
 - *Are teachers well-versed in the school's club offerings? Do they have a list?*
 - *Do special educators discuss extracurricular opportunities with both students with ASD and their parents throughout the year?*
 - *Is there a Club Day event, and is it well promoted to special education students?*
- Clubs should be widely promoted to students with ASD, as they offer **valuable opportunities for all students to practice social communication and build 21st century skill competencies**– regardless of club topic
- Clubs could become places where **naturally reinforcing interventions** are embedded
 - *Club advisors should be given opportunities to collectively brainstorm strategies for helping their clubs serve students in new and innovative ways.*

Implications for Future Research

- A larger and more geographically diverse study should be conducted in order to determine whether or not this type of participation by students with ASD in clubs is a phenomena unique to southern California
- Including students with ASD who don't participate in club activities to determine the root cause of their non-participation and identify additional barriers to participation
- Extending this research to other extracurricular settings, such as sports teams, religious youth groups, student council-type organizations, or Boy Scouts/Girl Scouts
- An **intervention study** designed to embed strategies to increase 21st century skills within club settings would be valuable, and might utilize the curriculum designed for use in schools from P21.

Closing Thoughts

- This study provided additional evidence that extracurricular activities offer both meaningful experiences for students and spaces in which their social communication skills can be fostered
- The content of the clubs are important in order to draw student interest, but there's also a lot of opportunity for them to practice communication and 21st century skills within clubs
- It's important to consider how club environments might be enhanced by formalizing these opportunities for students to practice additional, transferable skills within them
- This study adds to a growing body of evidence that extracurricular activities are under-utilized by special educators as a place where meaningful growth can take place

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