

Project KISS: Investigating Gaze Outcomes Associated with Flirting

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Crehan Lab
autism & neurodiversity
across the lifespan

Introduction

Autistic adults (AA)...

- Less likely to learn about general sex education from parents, teachers, & peers¹.
- Report that school-provided sex education not accessible or specific enough².
- More likely to:
 - Learn about sex education from less accurate sources such as media & pornography sites².
 - Engage in problematic behaviors (i.e., stalking) & experience difficulties with social aspects of dating & sexuality¹.
 - Experience unwanted sexual contact (3x more) & rape (2.4x more) than non-autistic (ASD) adults¹.

The Crehan Lab at Tufts & Boston Children's Hospital launched Project Key Intimate Social Skills (KISS), a 3-year NIH-funded study to develop & assess a social measurement battery for general social, dating, & sexual functioning.

This project will help evaluate if target engagement aligns with Project KISS's established dating & sexual functioning outcomes.

Methods

Design: Longitudinal cohort study using quantitative & qualitative methods

Tools:

Teen Transition Inventory (TTI): Self-report tool developed to study psychosexual functioning in adolescents & adults with ASD. TTI divides psychosexual functioning into 3 scales: psychosexual socialization, psychosexual selfhood, & sexual/intimate behavior³

- **Psychosexual functioning scale:** Measures interactions with social contexts (e.g., peers, parents, siblings, & media) where people learn about & experience sex & romantic relationships³

	Not at all true	Somewhat or sometimes true	Very or often true	I don't know/I prefer not to answer
I discuss my feelings &/or questions about intimacy/sexuality with my parents				
I get along well with other people				
I am able to easily start up a conversation with someone who I do not know well				
When I am in love with someone, I do not know what to say				

Table 1: TTI Item Examples

Flirt-In-The-Crowd (FITC) paradigm: Uses eye-tracking assessment of gaze behavior to measure ability to quickly pick out self-directed gaze from a group of faces. Two conditions associated with FITC paradigm are used for analysis⁴.

- **Condition B:** Measures when someone looks at you
- **Condition D:** Measures when someone looks back at you after you look at them

Gaze Outcomes: Gaze outcomes consistent with flirting include dwell time, fixation count, & second fixation duration in pre-defined areas of interest⁵. Fixation count refers to the number of fixations within an area of interest⁶. Fixation count selected as assesses how engaging content in the interest area was to subject.

Data analysis: Pearson's r correlation coefficient using Statistical Package Social Sciences (SPSS). This preliminary analysis focuses on baseline data & select TTI items.

Participants

Project KISS recruited participants between 18-35 years old. Average age of participants in this sample was 22.18 years old. Participants attended & completed: screening visit to determine eligibility, clinical visit, initial baseline visit, & 3-month follow-up visit.

- 11 autistic participants
- 69 non-autistic participants

		Total sample (n=80)	Autistic (n=11)	Non-Autistic (n=69)
Race (n, %)	African American/Black	4 (5%)	0	4 (5.8%)
	White	46 (57.5%)	10 (90.9%)	36 (52.8%)
	Asian	20 (25%)	1 (9.1%)	19 (27.54%)
	Latino	1 (1.25%)	0	1 (1.45%)
	Hispanic	1 (1.25%)	0	1 (1.45%)
	Native	1 (1.25%)	0	1 (1.45%)
	More than one race	7 (8.75%)	0	7 (10.14%)

Table 2: Participant Race

Gender

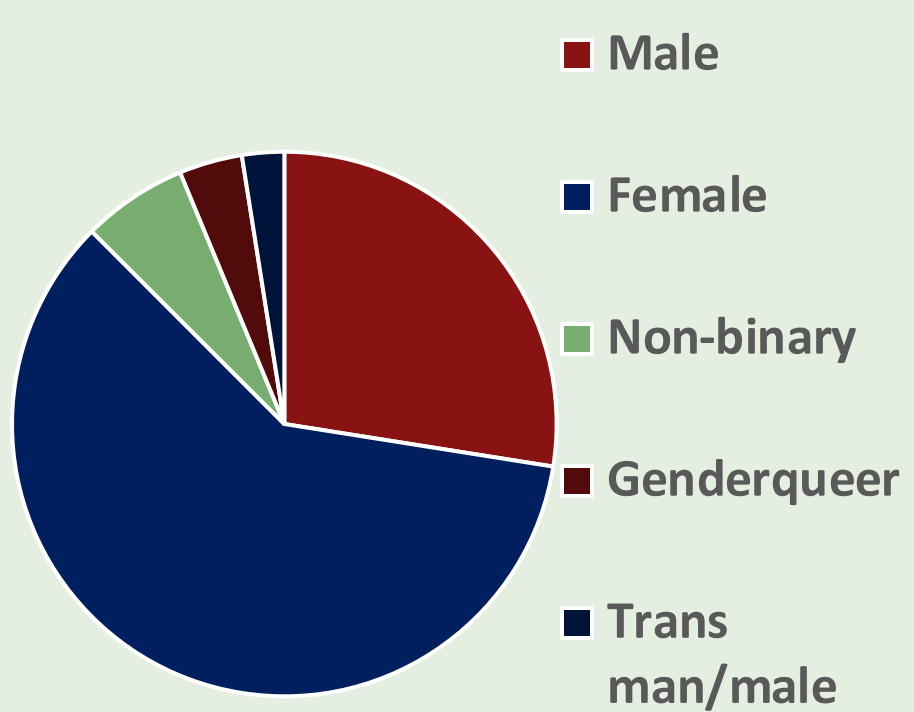


Figure 1: Participant Gender

Sexual Orientation

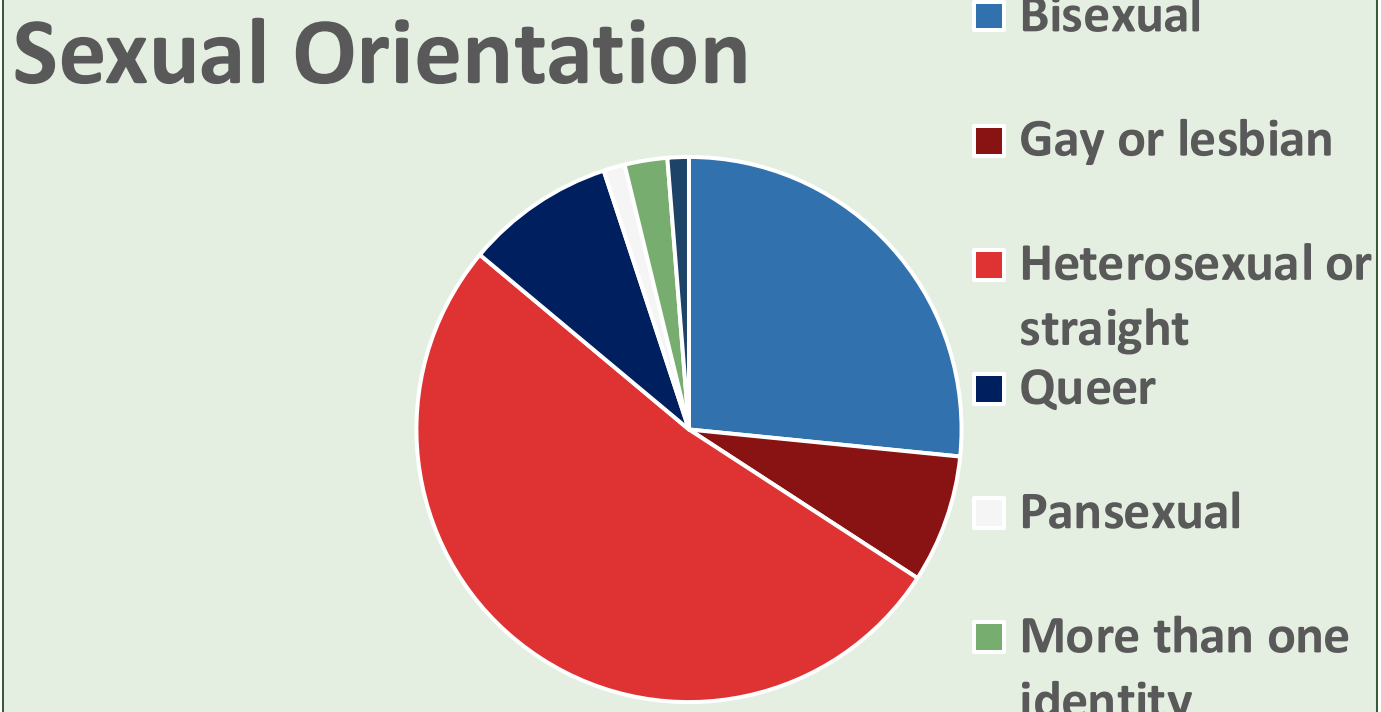


Figure 2: Participant Sexual Orientation

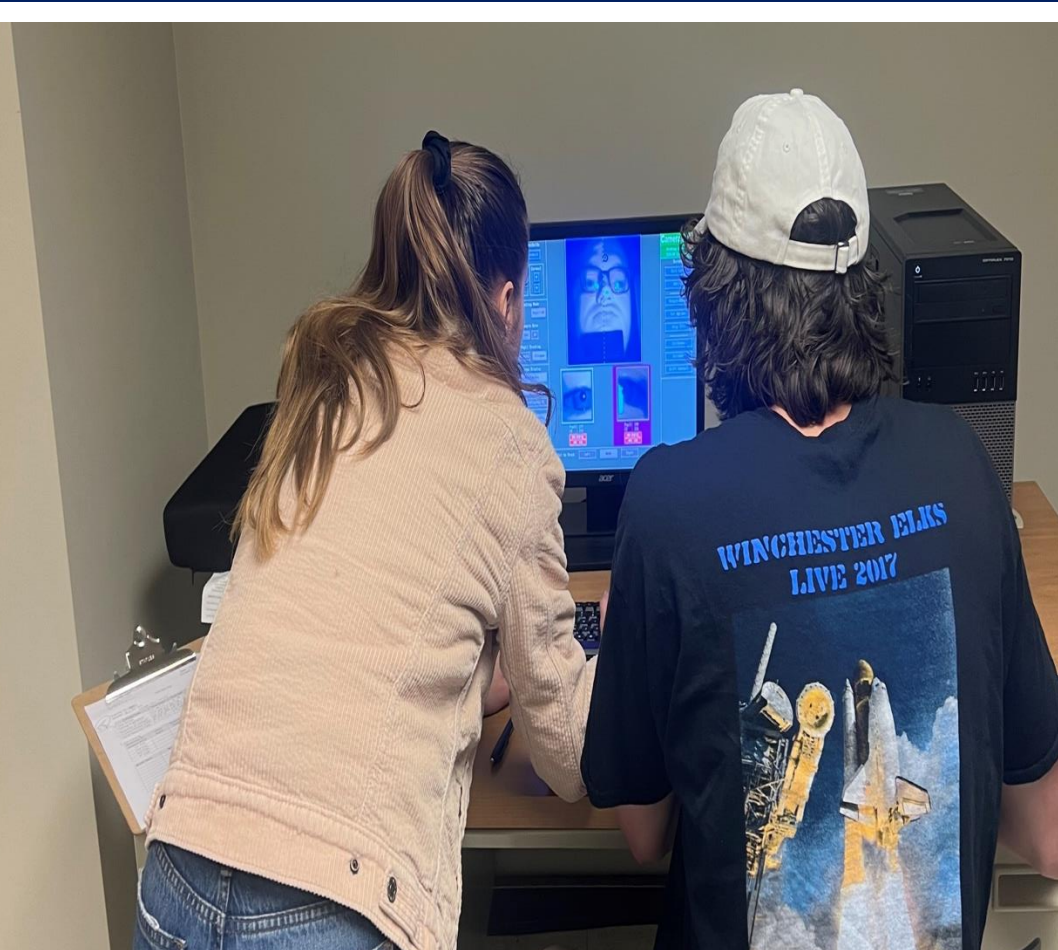
Hypothesis

A positive correlation will exist between fixation count measured by the FITC eye tracking tool & scores on the psychosexual functioning scale of TTI, indicating the FITC accurately recognizes interest in both AA & non-ASD adults.



← Image on left shows participant's set up during eye tracking portion of visit.

Image on the right → shows what researchers see as they calibrate eye tracker.



Example of images → shown to participants. Left image is shown first, & then eyes of one person in image will change. In this image, it is the person in the yellow shirt.



Results

Variables were explored for normal distribution. Skewness & kurtosis were within expected intervals. Full correlational results are shown in Table 3. Only complete data sets were included in analysis.

Two significant correlations emerged between personal openness & psychosexual socialization, both in conjunction with condition D.

TTI Scale	Statistic Type	Fixations for Condition B	Fixations for Condition D
Friendship Skills	Pearson Correlation r	0.102	-0.21
	Sig. (2-tailed)	0.443	0.111
	N	59	59
Social Acceptance	Pearson Correlation r	0.037	-0.225
	Sig. (2-tailed)	0.781	0.087
	N	59	59
Perceived Romantic Competence & Ability	Pearson Correlation r	0.012	0.024
	Sig. (2-tailed)	0.929	0.858
	N	59	59
Personal Openness	Pearson Correlation r	0.238	-.324*
	Sig. (2-tailed)	0.069	0.012
	N	59	59
Psychosexual Socialization	Pearson Correlation r	0.162	-.274*
	Sig. (2-tailed)	0.222	0.036
	N	59	59

Discussion

There was a **negative correlation between fixation count measured by the FITC tool & scores on the psychosexual functioning scale of the TTI**, indicating that FITC tool does not accurately recognize interest. This could be because it is unclear how well interest can be distinguished using eye tracking data. Interest is a higher order, subjective construct that typically accounts for longer periods of time than single gaze shifts or fixations⁷. This **could indicate that fixation count may not be the best measure for capturing interest.**

Conclusion

Future research should explore outcomes that capture behavior (romantic interest) more accurately. Additionally, more research on eye tracking should be carried out to determine the usability of each gaze outcome determined to be consistent with flirting. Continued research into this subject is essential to decrease the rate of sexual victimization in AA & reduce the knowledge gap that exists in sexual education between AA & non-ASD adults.

Link to
References &
Project Abstract:



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