



# Data Forensics for Test Security





## Speaker

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THE



STUDENT > Student Life > Studies

# Exam cheating: A third of students in admit to doing so this year alone, as land survey reveals the most unusual methods used

14% of students claim their teachers have helped them to cheat

LIFE CULTURE

students ca

acy

ight cheating in licensing media

Lucy Bannerman

October 15 2018, 12:01am, The Times



11-10-2015 Tue 09:01:08



11-10-2015 Tue 11:21:49

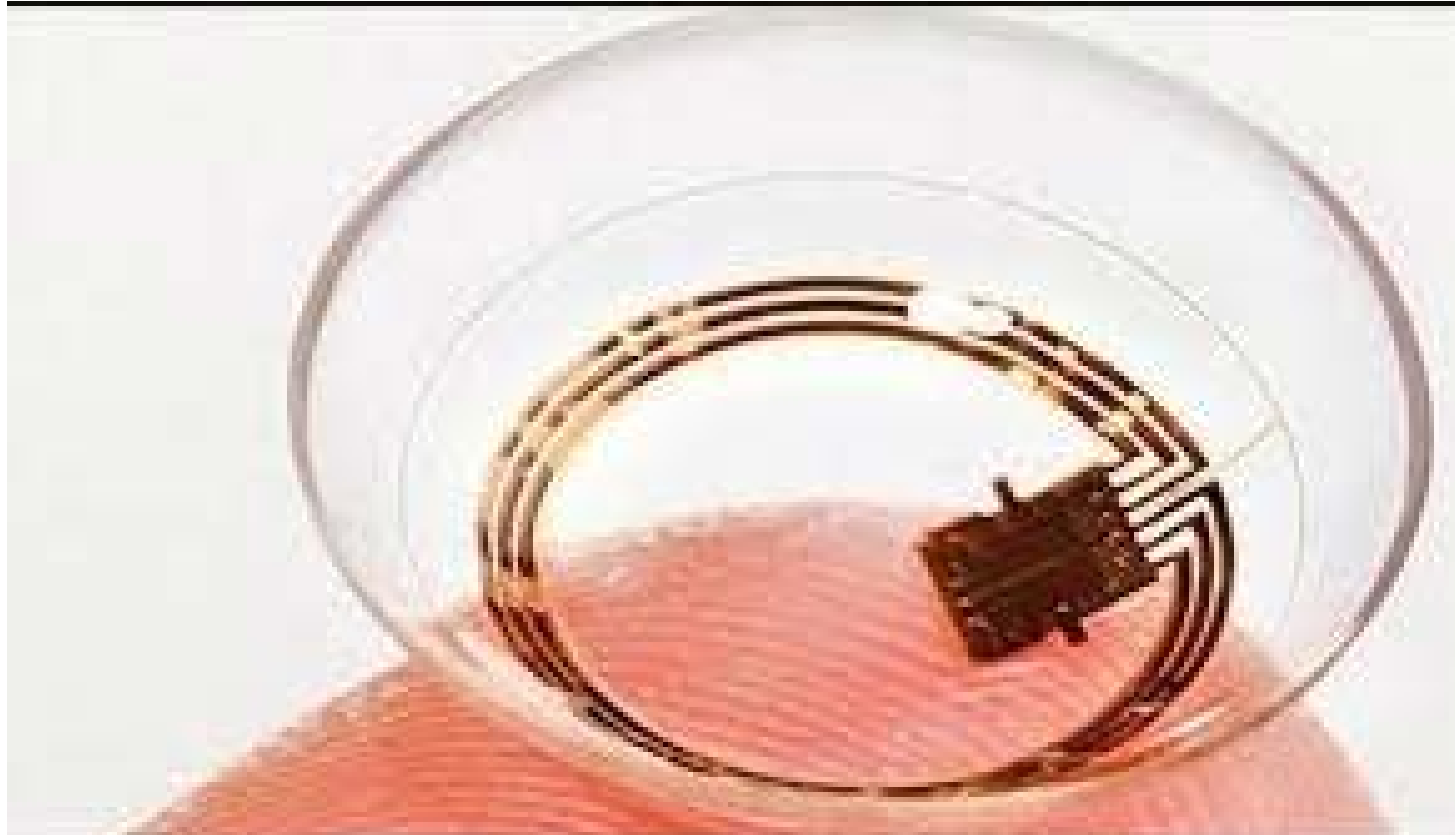


...TCA noticed that the CD had his cell phone in the testing area and was taking pictures of the exam questions on his monitor. TCA contacted Region Mgr. to alert her of what was going on. TCA removed the CD from the testing area and asked if he could see the CD's cell phone. The CD said "no, you cannot see the cell phone." CD seemed to not really care that he was caught cheating and was asking the TCA if he can reschedule his exam for another date. TCA said he has to talk to his board regarding further instructions. CD then asked if he could pay off the TCA with "hush money". CD said "I will go to the ATM and get you some money in order to forget about what just happened." TCA said "absolutely not, you are currently under surveillance, and your actions will be documented."...









# We take steps to prevent it...

- Security measures at check-in
- Test Center Administrator (TCA) walkthroughs
- Video monitoring
- Multiple examination forms
- And more





# However, what can we do about those candidates who are not caught?

- Data forensics program
- Made possible by big data approaches
- Increased sophistication of statistics to find outliers in behavior



# PSI's Data Forensics Program

- After every day of testing, our data forensics team runs data from our client programs from around the globe
- PSI's high volume programs, including ABC, are specifically examined for a wider degree of trends
- Flagged candidates or test centers trigger secret shops and audits



# What are we looking for?

Pass Rates



By test forms



By test center

Response Similarities



$J2$



Angoff's *Index B*



$Ci^*$

Response Time



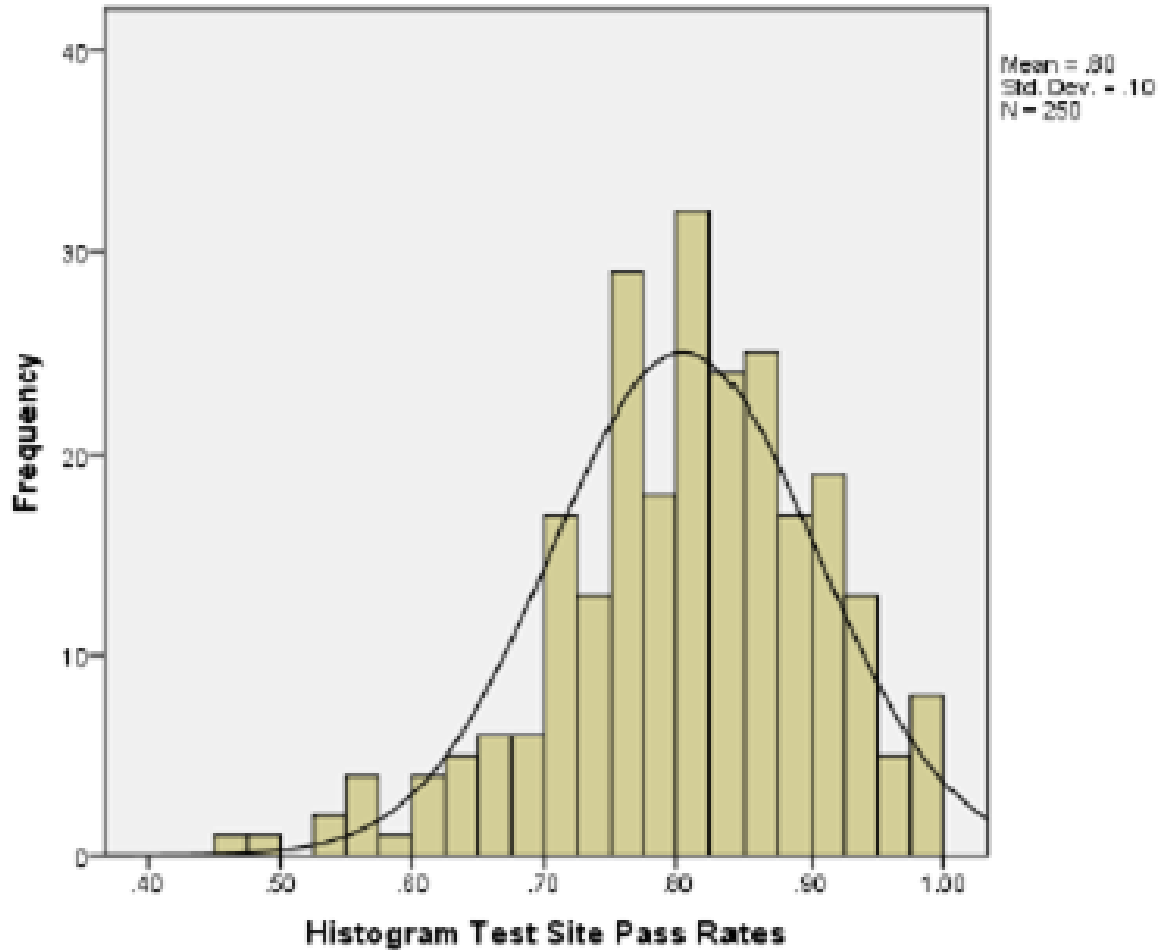
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*MSQ Misfit Index*



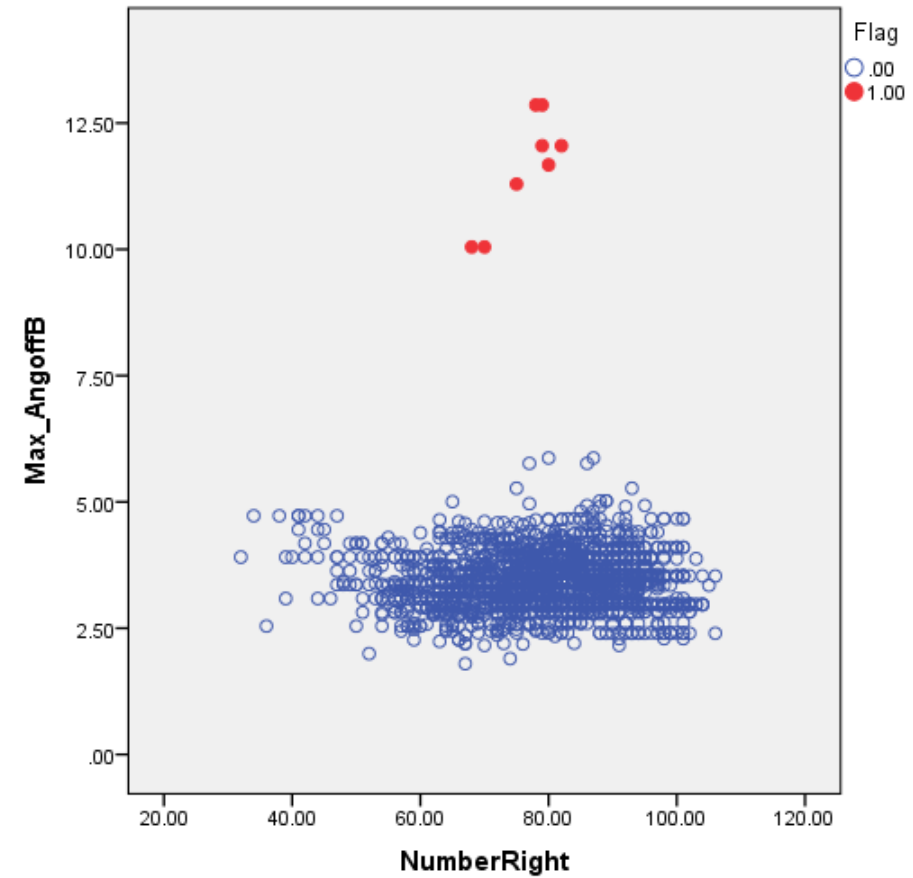
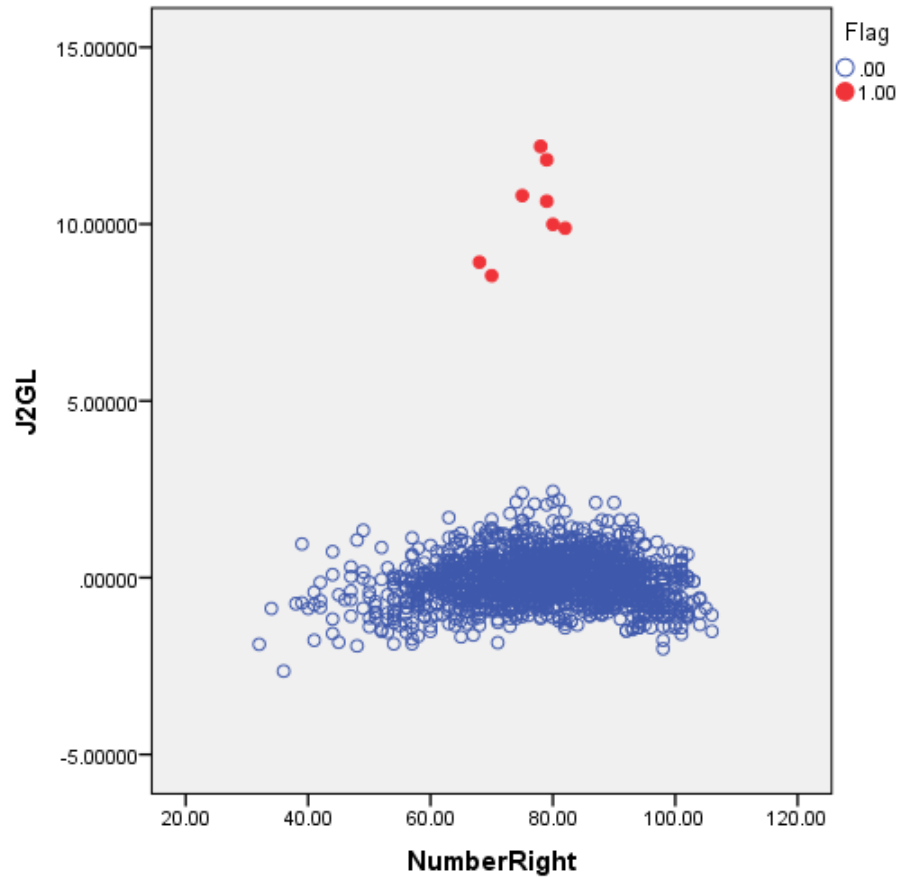
# Pass Rates



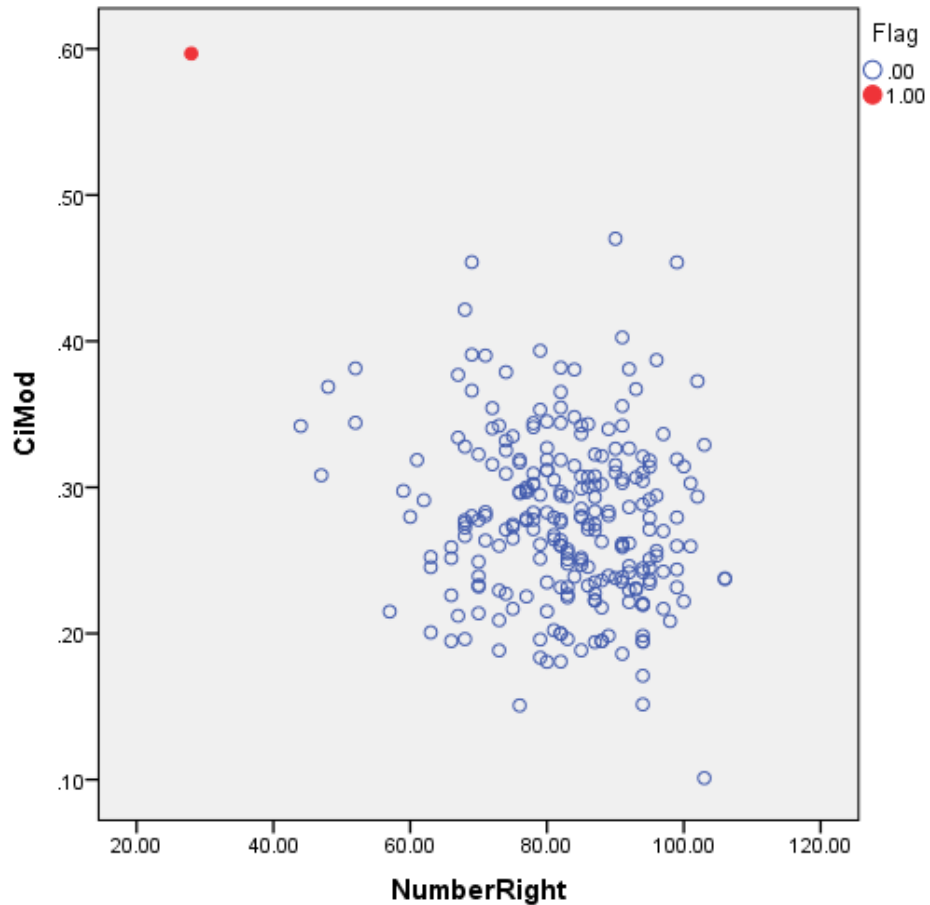
- Looking for test sites that have pass rates outside the norm



# Response Similarities



# Response Time



- Examines the questions answered correctly and exam time, offset with question difficulty and question response patterns







# What can the non-psychometricians in the room do?

- Pass rates
- Rapid test takers
- Random response patterns
- Similarities in response patterns with candidates close to them



# Thank you! Questions?

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