Predicting Adult Attachment for Young Adults in the US and China

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Study Focus

Adult Attachment

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Study Focus

Conflict resolution?

Trust?

SES?

Self efficacy?

Gender?

Family of origin?

Love?

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Study Focus

62 predictors are included and compared in this study, including demographic information, relationship dynamics, and family of origin experiences.

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Study Focus

Demographic information

- gender
- sexual orientation
- ethnicity
- current position
- socioeconomic status
- age
- …

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Relationship dynamics

- longest relationship duration
- current relationship status
- relationship satisfaction
- love for their partner
- expectations
- trust
- conflict resolution
- self-efficacy
- partner's attachment
- …

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Family of origin experiences

- the marital status of the participants' parents
- the conflict resolution patterns between parents
- the level of love and conflict between parents
- perceived threat
- self-blame
- Triangulation
- parental interaction patterns
- parental support from father and mother
- parent-child satisfaction
- highest degree obtained by both mother and father
- …

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Research Questions

1. How accurately and effectively can a comprehensive set of predictors (demographic information, relationship specific predictors, and family of origin experiences) predict adult attachment security?

2. What are the key predictors of adult attachment security?

3. Would the performance of a key predictor model trained on the American sample differ when applied to the Chinese sample?

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Methods

Participants

- include 357 American and 234 Chinese
- consist of undergraduate and graduate students between the ages of 18 and 29 years old who have been in a romantic relationship
- were recruited by flyers on campuses and postings on social media of universities with similar ranking in each country.
- were asked to complete an online survey, which needs about 25 minutes to complete.

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Methods

Measures

- The outcome binary variable is created as either secure or insecure attachment. The **Relationships Questionnaire** (Bartholomew & Horowitz, 1991) is employed in this study to assess participants' attachment styles

- The predictor measures include:
  - Complete existing measure, such as **Relationship Assessment Scale** (Hendrick,1988)
  - Composed of items from existing measures. For example, the measure of **Parental Support** is composed of items selected from the **Parental Attachment Questionnaire** (Kenny, 1987)
  - First-time generated measures, such as **Expectation**: "In general, I believe my current romantic relationship will keep on being satisfying (or my future romantic relationship will be satisfying)"

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Methods

Data analysis process

- Data preparation
  - dealing with missing values (by imputing the mean)
  - constructing predictor variables
  - encoding categorical and ordinal variables
  - standardizing continuous variables.

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Methods

Data analysis process

- Two primary machine learning algorithms, **Ridge Regression** and **Random Forest**, were employed to address research questions
  - For research question 1, **accuracy** were used for model evaluation
  - Research question 2 is answered by **estimating feature importance** and conducting **recursive feature elimination**.
  - To answer research question 3, 9 key predictors were selected to train the rain forest model using American sample, and the performance of this model are checked with both American and Chinese sample.

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Methods

Data analysis process

- **Ridge Regression (Regularized Logistic Regression)**
- **Random Forest**

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Methods

Data analysis process

- **Estimating Feature Importance**
- **Recursive Feature Elimination (RFE)**

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Results and Implications

Research question 1

Using all the predictors, the Random Forest model achieved an even higher accuracy of **90.28%** and the Ridge Regression model yielded an accuracy of **87.5%**.

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Results and Implications

Research question 2

- attachment of the partner
- romantic relationship satisfaction (RAS)
- longest romantic relationship duration
- father's highest degree
- expectation
- socioeconomic status (SES)
- trust
- self-efficacy
- conflict resolution with the partner

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Rank	Ridge	Predictor Description	Ridge & RFE	Predictor Description	Random Forest	Predictor Description	Random Forest & RFE	Predictor Description
1	r28_1: 1.79	attachment of partner	r28_1: 1.79	attachment of partner	r19: 0.12	secure	r19: 0.14	secure
2	r20: -1.45	fearful	r20: -1.45	fearful	r20: 0.10	fearful	r20: 0.13	fearful
3	r19: 1.39	secure	r19: 1.39	secure	r12: 0.05	RAS	r12: 0.08	RAS
4	f26: 1.20	father highest degree	f26: 1.20	father highest degree	r16: 0.04	trust	r28_1: 0.07	attachment of partner
5	r15: -1.14	expectation	r15: -1.14	expectation	r22: 0.04	dismissing	r16: 0.06	trust
6	r22: -1.04	dismissing	r22: -1.04	dismissing	r28_1: 0.04	attachment of partner	r18: 0.06	efficacy
7	r12: 0.89	RAS	r12: 0.89	RAS	r14: 0.03	RSS	r17: 0.05	conflict resolution with partner
8	d5_poly_1: -0.82	SES	d5_poly_1: -0.82	SES	r17: 0.03	conflict resolution with partner	r22: 0.05	dismissing
9	r3: 0.80	longest RR	r3: 0.80	longest RR	r18: 0.03	efficacy	r14: 0.04	RSS
10	e1: -0.77	emotion	e1: -0.77	emotion	r21: 0.03	preoccupied	r3: 0.04	longest RR

Results and Implications

Research question 2

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Results and Implications

Research question 3

Using the 9 key predictors, accuracy is 79.17% for American sample and 70.94% for Chinese sample.

Thank you!

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