

Evolution and Bullying

Peer victimization, body morphology, and reproductive opportunities in college students

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Abstract

0.0 Major questions and results

- Is bullying behavior maladaptive? Do bullies have fewer reproductive opportunities?
 - Adolescent bullying behavior is significantly positively correlated with number of sex partners in both male and female 18-25 years olds.

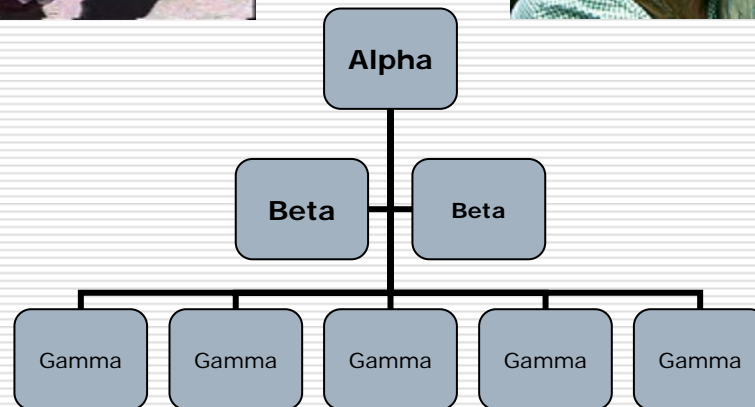
Abstract

0.1 Major questions and results

- Is there a correlation between adult body morphology and adolescent bullying behavior?
 - In males only, adult hand grip strength is significantly positively correlated with adolescent bullying behavior.

Introduction

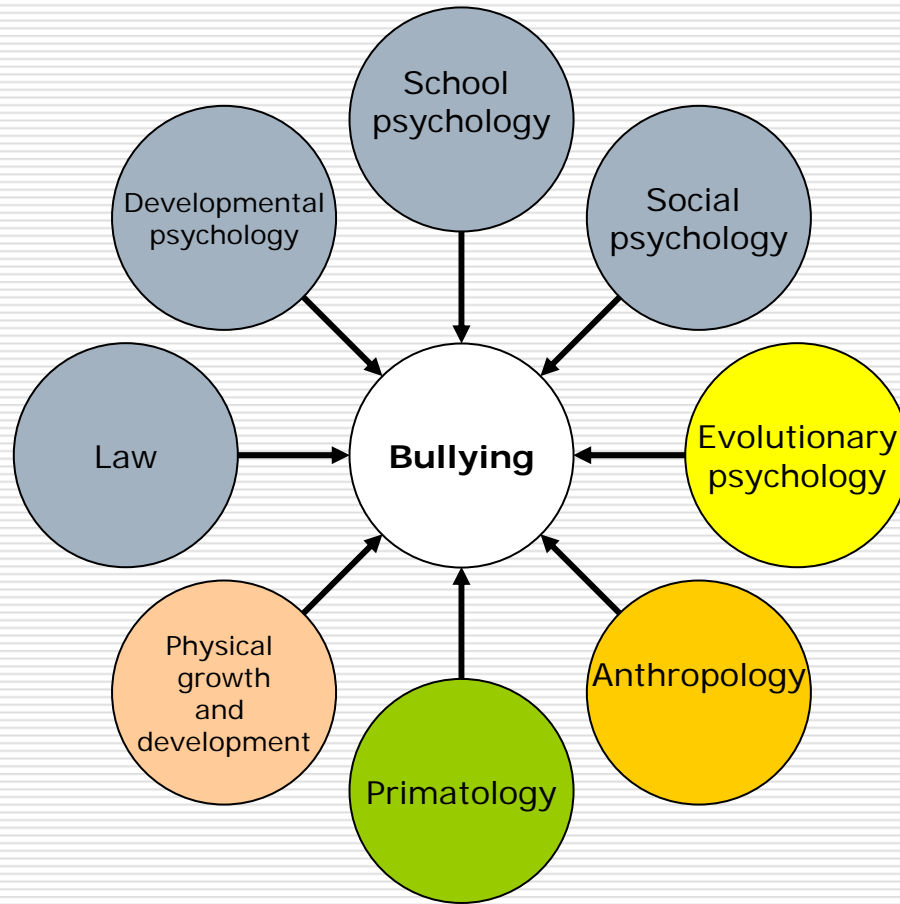
Social dominance hierarchy



Introduction

- Social Dominance Hierarchy
 - Aggressive behavior
 - Prosocial behavior
 - Reciprocation (Trivers, 1971)
 - Cooperation/Alliance building (Strum, 1994)
 - Minimized conflict
 - reduced stress (Sapolsky, 2001)
 - Bi-strategic - Machiavellian (Hawley, 2003)

Introduction



Introduction

1.0 Bullying Defined:

- A person is being bullied or victimized when he or she is exposed, repeatedly and over time, to negative actions on the part of one or more other people (modified from Olweus, 1993)
- 1 in 7 students is either a bully, victim, or bully/victim

Introduction

1.1 Bullying as epidemiological problem

- ❑ Experts estimate that as many as 150,000 children stay home from school each day because they fear being victimized by a peer (Juvonen et al., 2003).
- ❑ In a large study that included data from 25 different nations, no country had fewer than 9% of its children involved in bullying behavior or being victimized (Nansel et al., 2004).

Introduction

1.2 Types of bullying

- ❑ Relational/indirect bullying
- ❑ Physical bullying



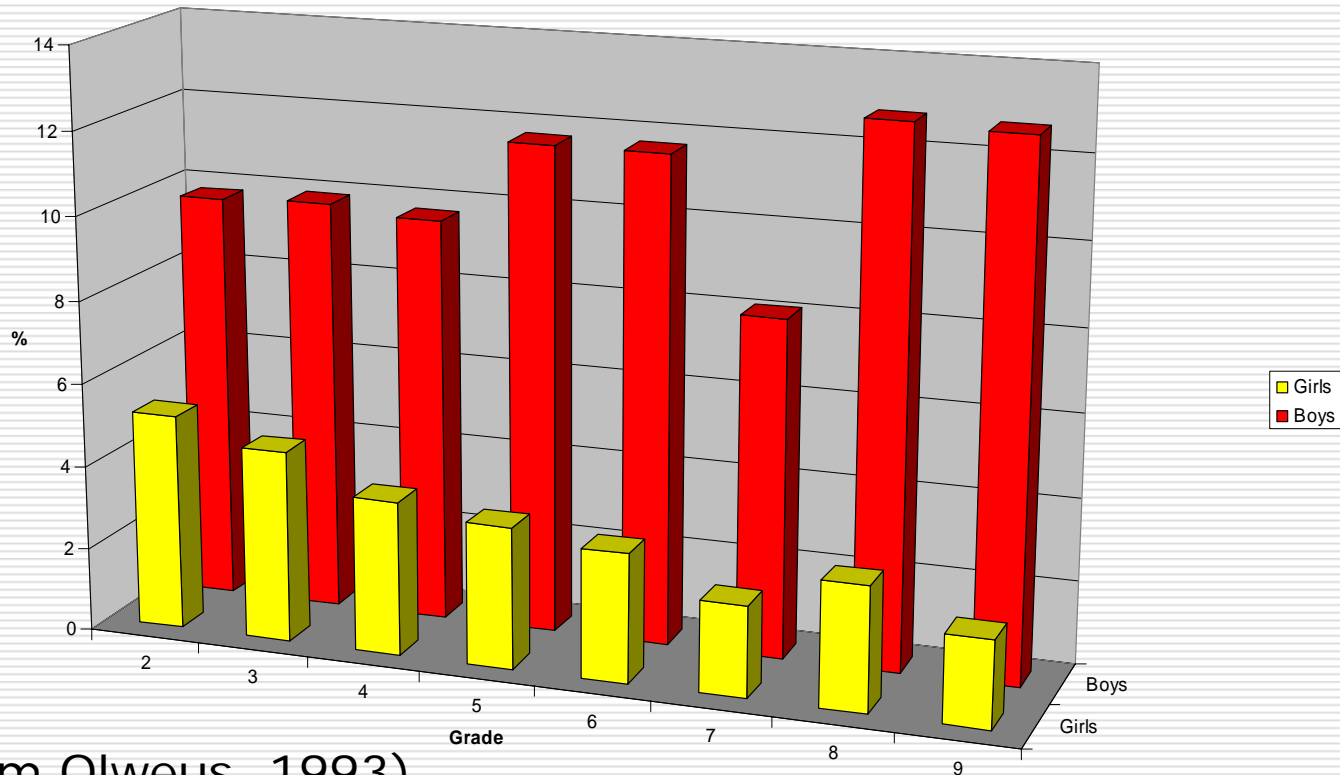
Introduction

1.3 Categories of actors

- Neutrals
- Victims
- Bullies
- Bully/Victims

Introduction

Percentage of bullies 2nd to 9th grade



(data from Olweus, 1993)

Questions

- Is bullying behavior maladaptive (Hawley, 2003)?
 - Developmental psychologists have shown that children who are aggressive both prosocially, coercively, and bistrategically reap more resource benefits than their neutral peers.
 - Does this aggressive behavior provide any reproductive advantages in adulthood?
- Is there a connection between bullying behavior, body morphology, strength, and reproductive opportunity (Hughes and Gallup, 2003)?
 - If there are detectable, significant connections, do males and females differ (based on different reproductive strategies)?

Methods

2.0 Participants

- Recruited from Psy101 research pool.
- **Males** between ages 18-25 **N=83**
- **Females** between ages 18-25 **N=65**

Total N = 147

Methods

2.1 Survey instruments – Three-part questionnaire

- Social Experiences survey
- Developmental survey
- Sexual History survey

Methods

2.1.1 Survey instruments - Social Experiences

- How often were you a victim of physical aggression (hitting, kicking, physical intimidation) during high school?
- Not at all Once or twice Occasionally Frequently Very Often
- How often were you isolated from others in middle school?
- Not at all Once or twice Occasionally Frequently Very Often

Modified from Newman et al. (2005)

Methods

2.1.2 Survey instruments - Developmental Survey

- Males

- facial hair, pubic hair, growth spurt, nocturnal emissions, pace of development

- Females

- menarche, pubic hair, breast development, growth spurt, pace of development

Methods

2.1.3 Survey instruments - Sexual history survey

- Age, sex, sexual orientation, sexual intercourse
- Measures of reproductive opportunity
 - age at first sex, number of sex partners

Methods

2.2 Anthropometry

- ❑ Shoulder/hip circumference and breadth
- ❑ Hand-grip strength
- ❑ 2D4D



Results

3.0 Targets

- Boys victimize boys
 - **100%** of Males in our sample, if they were aggressed at all physically, it was by a another male.
 - **100%** of Males who aggressed someone physically at least once or twice, perpetrated the aggression toward another male.
 - Intrasexual competition? (Archer and Côté, 2005)

Results

3.1 Targets

- Girls victimize boys and girls (Archer and Côté, 2005)
- **72%** (18/25) of females who had been aggressed physically were aggressed by females.
- **70%** (14/20) of females who aggressed someone physically at least once or twice, perpetrated the aggression toward another female.
 - Levels of physical aggression were statistically larger in males than in females $p < .001$ as expected.

Results

3.2 Reproductive opportunity - Males

Male bullying and reproductive opportunity

		HSB_T	MSB_T	FirstSex	SexPart
HSB_T	Pearson Correlation	1	**		*
	N	76			
MSB_T	Pearson Correlation	.622**	1		*
	Sig. (2-tailed)	.000			
	N	76	76		
FirstSex	Pearson Correlation	-.195	-.186	1	*
	Sig. (2-tailed)	.111	.129		
	N	68	68	72	
SexPart	Pearson Correlation	.227*	.242*	-.526*	1
	Sig. (2-tailed)	.049	.035	.000	
	N	76	76	71	81

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

Results

3.3 Reproductive opportunity - Females

Female bullying and reproductive opportunity

		HSB_T	MSB_T	FirstSex	SexPart
HSB_T	Pearson Correlation	1	**		**
	N	53			
MSB_T	Pearson Correlation	.783**	1		
	Sig. (2-tailed)	.000			
	N	53	53		
FirstSex	Pearson Correlation	-.112	-.095	1	**
	Sig. (2-tailed)	.454	.524		
	N	47	47	58	
SexPart	Pearson Correlation	.387**	.144	-.360**	1
	Sig. (2-tailed)	.004	.305	.005	
	N	53	53	58	65

** . Correlation is significant at the 0.01 level (2-tailed).

Results

3.4 Body morphology - Males

Male bullying and body morphology

		GS_maxC	SH_circ	SH_dia	HSB_T	MSB_T
GS_maxC	Pearson Correlation	1		*	*	
	N	83				
SH_circ	Pearson Correlation	.198	1	**		
	Sig. (2-tailed)	.073				
	N	83	83			
SH_dia	Pearson Correlation	.243*	.390**	1		
	Sig. (2-tailed)	.029	.000			
	N	81	81	81		
HSB_T	Pearson Correlation	.227*	.088	.010	1	**
	Sig. (2-tailed)	.049	.447	.930		
	N	76	76	76	76	
MSB_T	Pearson Correlation	.067	.012	-.124	.622**	1
	Sig. (2-tailed)	.564	.916	.287	.000	
	N	76	76	76	76	76

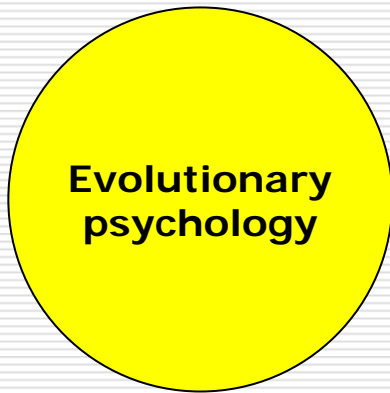
*. Correlation is significant at the 0.05 level (2-tailed).

**. Correlation is significant at the 0.01 level (2-tailed).

Discussion

- ❑ Humans are aggressive from birth (Tremblay and Nagin, 2005).
- ❑ Socialization/cultural practices ameliorate aggression in childhood (Ex: egalitarian San).
- ❑ Sex differences in style and level of bullying increase into adolescence.
- ❑ Physical bullying generally decreases into adulthood.
- ❑ Bullying behavior is not necessarily maladaptive for the aggressor but could be fatal to the victim.

Future work



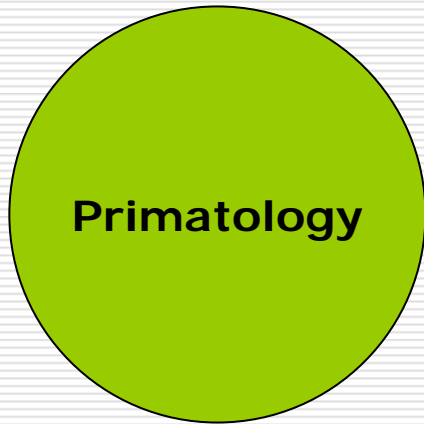
- Do other measures of reproductive success correlate with bullying in adolescence?
Facial attractiveness?

Future work



- Bullying is cross cultural.
- There is evidence for bullying in Western societies, what is the evidence from traditional societies?
- Ethnographic research
- Is the bully brain different from the rest of us?

Future work



- Cues for victimization
- Primatologists and their anecdotes

Acknowledgments

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