Abily, Camille 378
abuse, physical, emotional and sexual 7, 65, 157
academic requirements and graduation rates 2, 159, 161, 355–61
see also National Collegiate Athletic Association (NCAA) Division IA and Proposition 16
age restrictions in sports 2, 7, 156–67, 171–2
ability 163
abuse, physical and sexual 157
age fraud 160
antitrust and/or labor law 161–2
Association of Tennis Professionals (ATP) World Tour 161
baseball 162
basketball 159, 162, 165–6
boxing 162
burnout prevention 160
child labor laws 163
collective bargaining agreement (CBA) 159, 161, 162–3, 165
corruption 160
cycling 163
economic impact 163–6
education requirement 159, 161
Fédération Internationale de Gymnastique (FIG) 157, 160
figure skating 156–7
football 162
golf 156–7, 159–60
governing bodies 171–2
grand slam 158
gymnastics 156–7, 159, 160
hockey 162
injuries, career-ending, prevention of 164
International Tennis Federation (ITF) Age Eligibility Commission 158
Ironman Triathlon World Championships 163
Junior Tour 158
Ladies Professional Golf Association (LPGA) 157, 159
legal, cultural and ethical criticism 159
legal status 160–63
Major League Baseball (MLB) 161, 162
muscular and skeletal development 160
National Basketball Association (NBA) 159, 161, 165–6
National Football League (NFL) 161, 162–3
National Hockey League (NHL) 161
ordinary least squares (OLS) regression 164
overwork, vulnerability to 157
playing ability, intelligence, maturity and financial stability 160
Professional Golf Association (PGA) Tour 161
public image 160
reserve clause 162
running 163
self-selection 165–6
social benefits 159
stochastic frontier analysis 163
swimming 163
tennis 156–7, 158, 159, 162, 164
Women’s National Basketball Association (WNBA) 7, 157, 159
Women’s National Basketball Players’ Association (WNBPA) 159
Women’s Tennis Association (WTA) Tour 157, 158, 163–5, 166–7
American Junnior Golf Association (AJGA) Tournaments 97
antitrust and/or labor law 161–2
Ashe, Arthur 115
Association of Tennis Professionals (ATP) World Tour 161
assortative mating 3
athletics 62–5
attendance at sports events 3, 21–38
Australia 49, 410
basketball 133–5
by marital status and spouse’s sports capital 30
by sports participation 26
data 28–30
econometric results 30–37
marriage and attendance 27–8, 29–30, 37
model 24–8
participation 26
previous research 22–4
probit model 34–5
sports capital 25–7, 31–2
Women’s World Cup 365–6, 375–6, 382
attire, modest 4
Augustus, Seimone 147
Austin, Tracy 156, 158
Australia 163, 397
Australia: basketball and netball see basketball and netball in Australia
Australia: participation in women’s sport 3, 40–54
aerobics/fitness 41, 42, 47
attendance patterns 49
Australian Olympic Committee (AOC) 51–2
Australian Rules Football 49, 50
basketball 49, 50
business deals (‘grass ceiling’) and networking 48, 51
competition/challenge 44, 46–8, 50, 51, 53, 54
composite commodity consumption 46
cricket 49
cycling 41, 42
dog racing 49
family-unfriendly demands 52–3
gender differences 47, 51
gender roles in the family 48
golf 41, 42, 48, 49
harness racing 49
health/fitness/well-being (including weight loss) 42, 43–4, 46–8, 51, 53, 54
home production function 46–7
horse racing 49
income 46–7, 48
life cycle changes in activities 42, 47
lowering barriers to participation 51–3
macho culture 52
marginal utility of consumption 48
model 45–51
motivations 40
motor sports 49
national sporting organizations (NSOs) 51, 52
netball 41, 42, 49, 50
non-participation and constraints 40, 44–5, 48
‘old-boy’ network 52
participation by age and gender 43
patterns of sports and physical recreation activities 41–5
role models and mentors, lack of 52, 54
rugby league 49, 50
rugby union 49, 50
running 42
soccer 42, 49
socialization and enjoyment 43–4, 46–8, 50, 51, 53, 54
Sport Leadership Grants and Scholarships for Women Program (ASC) 53
swimming 42
tennis 42, 49, 50
time allocation and constraints 45, 46, 49, 53
transport 44
underrepresentation 52, 54
utility function 46
walking 41, 42, 44, 47, 53
Women in Sport Leadership Register (ASC) 53
work responsibilities 48
avoidance behaviour 13

Barbieri, Melissa 416
baseball 11
age restrictions 162
coaching 276–8, 286
basketball 9–11, 12
age restrictions 159, 162, 165–6
coaching 275, 276–9, 282, 286
collective bargaining agreement (CBA) 264, 416
endorsements 381
Proposition 16 236
and quantile regression 2
Title IX 175, 420
see also revenues and subsidies in
National Collegiate Athletic Association (NCAA) Division I
women’s basketball
basketball and gender differences in
competitive balance 10–11, 135–7, 251–66
Associated Press (AP) player-of-the-year award 261
average first-round results 254–5
collective bargaining agreement (CBA) 264
Herfindahl-Hirschman index (HHI) 256–7
Herfindahl-Hirschman Index Ratio (HHIR) 256–8, 262, 264
inter-season competitive balance 253–4, 256
intra-season competitive balance 253–4
measurement 253–8
Naismith Award 261
National Basketball Association (NBA) 259, 262–3
National Collegiate Athletic Association (NCAA) 254–5, 256, 260, 264
National Collegiate Athletic Association (NCAA) Division I 251, 253, 257–8, 262, 263
National Collegiate Athletic Association (NCAA) Division II 262
National Collegiate Athletic Association (NCAA) Division III 262
player ability distribution changes 258–64
round by round average seed remaining 256
standard deviation of win percentage 254
Women’s National Basketball Association (WNBA) 263–4
basketball and netball in Australia:
media coverage and pay 16, 49, 50, 410–24
All-Australia Women’s Basketball Association (AAWBBBA) 418
attendance 410
Australian Broadcasting Company (ABC) 413–14, 415, 421
Australian Netball Players’ Association (ANPA) 422
Australian Sports Commission (ASC): Women and Sport unit 411–12
collective bargaining agreement (CBA) 416
International Basketball Federation (FIBA) 414
media coverage 411–14
media coverage in basketball 414–16
media coverage and pay in netball 421–2
National Basketball Association (NBA) 414
National Basketball League (NBL) 414, 415
Netball Australia 418
netball court design and positioning 417–19
netball, origins of 416–21
netball rules 417–20
pay inequalities 415–16
popularity 410
salaries 415, 422
Senate Estimates Committee inquiry (2006) 411
sponsorship 410
Trans-Tasman Netball League (TTNL) 421–2
TV viewership 410
Women’s National Basketball Association (WNBA) 410, 414
Women’s National Basketball League (WNBL) 415, 421–2, 423
behavioral conflict 64–5
behavioral differences in competitiveness 293–4, 299
Berenson, Senda 416–17
Bergman-Osterberg, Marina 417
biological factors and competitiveness 92, 313
Blyth, Madonna 416
body image 60–61, 67
Bompastor, Sonia 378
bone density, low 64
Borkowski, Shek 379
boxing 162
Brazil 349
British Commonwealth 16
British Open 102
Brown, Jim 260
Brunson, Rebekkah 147
Buffet, Marie-Georges 378
burnout prevention 160
business deals (‘grass ceiling’) and networking 48, 51
Buss, Jerry 134
capability effect 99
capability hypothesis 300
Capriati, Jennifer 156, 158
Caribbean 312
Catchings, Tamika 147
Central America 313
Chamberlain, Wilt 260
Champions Tour 5, 74, 76, 80, 82–3
Chastain, Brandi 347
child labor laws 163
Chile 374
China 160
Women’s World Cup 365, 369–71, 373–4, 383
‘choking under pressure’ 300
Civil Rights Act 177
Civil Rights Restoration Act (1988) 179
Clarett, Maurice 162
coaching women and women coaching: pay differentials 11–12, 269–88
average assistant coaching salaries by institution type 274
average head coaching salaries by institution type 272
baseball 276–8, 286
capital 275, 276–9, 286
Division I 275, 284
Division IA 272–4, 276–9, 282
Division IAA 272–4, 276–9
Division IAAA 272–4, 276–9
Equity in Athletics Data 271, 273, 278–9, 282, 284
football 275, 276–9, 286
Division II 272–4
Division III 272–4
golf 276–8, 286–7
salary model 282–6
institution type, coaching salaries by
percentage of women’s teams coached by women 269
wage determination for men’s golf coaches 284
wage determination for women’s golf coaches 285
operating expenses 275–6, 278, 286
program expenditures 280–81
program reputation 280–81
rating percentage index (RPI) 280
salary determinants 281–6
scholarships 278–9
soccer 276–8
softball 276–8, 286, 287
coaching performance by gender 279–81
coaching productivity 281
Division I 280, 286
tennis 276–8
total expenditures on selected sports by division 275–9
total expenses 275, 277, 286
volleyball 276–8
work–life balance barriers 270, 287
Coates, John 52
collective bargaining agreement (CBA)
age restrictions 159, 161, 162–3, 165
basketball 137, 139, 264, 416
netball 416
Colombia 297
Commonwealth Games 372, 412–13

Eva Marikova Leeds and Michael A. Leeds - 9781849809399
Downloaded from Elgar Online at 01/19/2019 10:30:20AM via free access
Communist countries 352–5, 357–8, 360–61
competition avoidance/aversion
figure skating 319–20, 324, 326, 327, 332
sprinting 13
competitive balance see basketball and
gender differences in competitive
balance
competitiveness and gender differences
293–314, 325–6
ability 295
analysis of variance 308
behavioral differences 293–4, 299
biological factors 313
capability hypothesis 300
‘choking under pressure’ 300
closeness or competitive balance
306–7
cultural heterogeneity 311–12
culture-and-incentives hypothesis
300, 311
data and descriptive evidence 301–8
drug-testing and performance-
filling drugs 309, 311
econometric findings 308–11
estimation results 310
finish times, percentage difference in
305, 306
genetic differences 294
Germany and 100m distance race
301–8, 309–12
golf 300
Graduate Record Examination
(GRE) 295
implications for future research
311–13
incentive structures 293
international athletes sample 301–8,
309–12
matrilineal and patriarchal societies
298
Mellon Foundation Graduate
Education Initiative 295
negotiating practices 296
nurture 297
opportunities 293
ordinary least squares (OLS)
regression 310–11
overconfidence 299
path dependency 306
performance 307
physical differences 293
population size 305–6
predispositions 293
previous empirical research 294–301
laboratory experiments 296–8
real-life evidence 294–6
sports data 298–301
quantile regression 310, 312
regression model 308
risk aversion and risk taking 295,
296, 297
running 299
self-selection 299–300
socialization 293, 297, 311
socio-cultural conditions 293
tennis 300
thresholds 306
‘Usain Bolt effect’ 305
corporate branding 134–5
corporate sponsorships 375
corruption 160
Crocker, Fay 390–91
cultural factors 57, 58, 92
golf 92
soccer 350, 353–5
cultural heterogeneity 311–12
cultural lag 4, 56, 59, 64–5, 67
culture-and-incentives hypothesis 300,
311
cycling 41, 42, 163
Czechoslovakia 294
da Silva, Marta 380
Diaz, L. 393
difference-in-differences (DiD)
technique 10, 235, 239–43, 245,
249–50
disordered eating 4, 62, 63–4, 68
Djokovic, Novak 115
drug-testing and performance-
filling drugs 13, 309, 311
Dwyer, Jamie 416
earnings
basketball 16, 139, 153
coaching 281–6
golf 5–6, 94, 96, 100, 103, 105,
108–9, 111, 390, 395, 397–402
Women’s World Cup 375–6, 379
see also basketball and netball in Australia; coaching; prize money; skiing: earnings and performance
East Asia 349
eating disorders 4, 62, 63–4, 68
economic contests see figure skating: gender-differential responses to economic contests
economic impact of Women’s World Cup 365–85
apparel and fashion markets 381, 384
attendance 365–6, 375–6, 382
bilateral trade patterns 367–8, 370, 382
Chile 374
China 365, 369–71, 373–4, 383
corporate sponsorship 375
endorsements 380–84
England 376–8
FIFA (Fédération International de Football Association) 365–6
Football Association (FA) 377–8
France 374, 376, 378
GDP 372–3, 382
Germany 365, 367, 374, 376, 378–9
growth model of trade 368
impact on trade and income per capita 369–74
Japan 369, 373–4, 376, 379
literature review 367–9
losses (revenue) 367
Major League Soccer (MLS) 375
personality 382
physical attractiveness 381–4
professional leagues, connection to 375
salaries 375–6, 379
semi-professionals 376, 379
Sweden 369, 371–2, 376, 379–80, 383
television audiences 366
television deals 375
Union of European Football Associations (UEFA) 377
United States 365, 367, 369, 371–2, 374–5, 380, 383
Women’s Football Association (WFA) 377–8
Women’s Professional Soccer (WPS) 375–6
Women’s Super League (WSL) 376
Women’s United Soccer Association (WUSA) 375
WPSL 376
education requirement 159, 161
endorsements 380–84
EPO (drug) 309
equal opportunities see Title IX
Equity in Athletics Disclosure Act (EADA) 9, 179, 180, 189–90, 191
Europe 346
European Championships 329, 331–2
European Tour 96
Evans, Dena 270
exercise, excessive 68
Family Education Right and Privacy Act (FERPA) 237
Fédération Internationale de Gymnastique (FIG) 157, 160
Fédération Internationale de Ski (FIS)
Alpine Ski World Cup 6, 116, 117–19
‘Female Athletic Triad’ 64
FIFA (Fédération International de Football Association) 14, 346, 348–51, 352, 353, 354, 365–6
figure skating and age restrictions 156–7
figure skating: gender-differential responses to economic contests 12, 13–14, 319–38, 341–4
‘atmospherics’ 331
coefficient of variation for men’s and ladies’ competitions 333
competition avoidance/aversion 319–20, 324, 326, 327, 332
competitiveness 325–6
estimation and data 329
European Championships 329, 331–2
Four Continents Championship 329, 331–2
‘home ice’ advantage 330
Index 433

incentives 319–20, 333, 335–6, 337
individual performance 335
International Skating Union (ISU) 343
Grand Prix events 329, 331, 333, 337
marginal physical product (MPP) 320
marginal revenue product (MRP) 321
means of key variables 332
negative feedback 319–20, 327, 331
negative impact 333, 336, 337
Olympics 328–37, 343
ordinary least squares (OLS) regression 333
participation decisions 326
piece rate 320
point differential 335
rank number 335, 336
rank-order tournaments (ROTs) 319, 321, 338
results 332–6
reward structure 328
score 335
scoring system 343
selection bias 325
self-selection 338
Short Program 327–31, 335–7, 341–2
team performance 323
World Championships 328–32, 334–7
football 8, 12
age restrictions 162
coaching 272–4, 275, 276–9, 286
Proposition 16 235–6
revenues and subsidies 225–6
Title IX 175, 183–4
see also soccer
Football Association (FA) 346, 377–8
Women’s Premier League 347
Women’s Super League (WSL) 347–8
Four Continents Championship 329, 331–2
France 295
Bureau du Conseil Fédéral 378
football 374, 376, 378
Football Association 378

gender differences 10, 116
Australia 47, 51
competitive balance 11
golf 5, 102, 105
skiing 117, 122, 129
see also basketball and gender differences; competitiveness and gender differences; golf: gender differences in response to incentives; international women’s soccer and gender inequality
gender gap 13
genetic differences and competitiveness 294
George, Tom 381–2
Germany
and 100m distance race 301–8
football 346, 365, 367, 374, 376, 378–9
Football Association (DFB) 378
Women’s Bundesliga 348, 378–9
GII 362
golf 12, 116
golf: gender differences in response to incentives 5–6, 92–112
affirmative action 95
American Junior Golf Association (AJGA) Tournaments 97
biological factors 92
British Open 102
capability effect 99
coefficient estimates 102, 104
competition, reaction to 92, 93
course difficulty 102, 103, 105
course distance 105
course ratings 105–7
cultural factors 92
empirical results 102–11
endogeneity 109
European Tour 96
experimental studies 93–6
final-round scores 100, 110, 111–12
fixed-effects model 312
gender differences 102, 105
Hausman specification tests 109
‘hot hand’ performance streaks 97
Ladies Professional Golf Association (LPGA) Tour 96, 100, 102–7, 109–11
marginal prize money variables 109, 111
marginal return measures 111–12
means and standard deviation 102, 104, 109
multicollinearity 105
new model of incentives 100–102
nonexempt players 108
nurture 95
opponent ability 100, 102, 105, 109, 112
ordinary least squares (OLS) regression 104, 110
par 103, 105
par distance 103
par values 105–6
pay schemes (piece-rate, tournament and revenue-sharing contracts) 94
player ability 100, 109
prize money and financial incentives 96, 100, 103, 105, 108, 109, 111
Professional Golf Association (PGA) tour 96–7, 100, 102–5, 107–11
risk preferences 92
sample selection bias 312
sample tournaments 103
self-selection bias 101
social preferences 92
superstar effects 108, 312
t-statistics 102, 104, 106, 107
team-work 293–4
total score approach 100, 111
tournament characteristics 100, 109
tournament theory 111
two-stage least squares regression (2SLS) 109–11
weather 312
White’s heteroskedasticity corrected standard errors 102
golf production function (literature review) 75–82
Granger causality 85–8, 89
Ladies Professional Golf Association (LPGA) 73–4, 76–89
performance before and after childbirth 75
Professional Golf Association (PGA) 73–4, 76–89
professional golf production and earnings 77–9
purse size and performance 75, 85–8
putting performance 81–2
quantile regression 81
race and nationality 75
Senior Professional Golf Association (SPGA) Tour 77–9, 82
skill convergence 84
structural model 80–81
technology in golf equipment 74
United States Golf Association (USGA) 73
value of the marginal product (VMP) 76
Women’s Professional Golf Association (WPGA) 73
golf
age restrictions 156–7, 159–60
Australia 41, 42, 48, 49
coaching 276–8, 282–7
competitiveness and gender differences 300
gender-differential responses to economic contests 326–7, 336, 337
and immigration theory 2
self-selection 2
governing bodies 171–2
graduation rates see National Collegiate Athletic Association (NCAA) Division IA and Proposition 16 impact on academic standards and graduation rates
Graf, Steffi 156
Granger causality 5, 85–8, 89
Greece 296
Greene, Nance 117
gymnastics and age restrictions 156–7, 159, 160

Hamm, Mia 347, 381
Hausman specification tests 109
health and physical well-being 3–4
hegemonic femininity 65, 66
Hendricks, John 347
Herfindahl–Hirschman index (HHI) 11, 256–8, 262, 264, 403–4
Higuchi, Hisako 391
Hingis, Martina 156, 158
Hjorth, M. 393
hockey 162, 416
Horan, Lindsey 378
‘hot hand’ performance streaks 97
human development index (HDI) 362

illegal substances see drug-testing
immigration theory and golf 2
incentives
and competitiveness 293
figure skating 319–20, 333, 335–6, 337
see also golf: gender differences in response to incentives
injuries, career-ending, prevention of 164
Integrated Postsecondary Education Data System (IPEDS) 189–90, 198
International Basketball Federation (FIBA) 414
International Gymnastics Federation (FIG) 7
International Olympic Committee 66
International Skating Union (ISU) 343
Grand Prix events 329, 331, 333, 337
International Tennis Federation (ITF)
Age Eligibility Commission 158
international women’s soccer and gender inequality 345–62
Brazil 349
climate 352–3, 357–8, 360–61
Communist countries 352–5, 357–8, 360–61
cultural factors 350, 353–5
East Asia 349
economic factors 345, 350
empirical model and results 352–62
enrollment ratios and education level 355–61
Europe 346
FIFA 346, 348–51, 352, 353, 354
Football Association (FA) 346
Women’s Premier League 347
Women’s Super League (WSL) 347–8
GDP per capita 352–4, 357–8, 360–61
Germany 346, 348
GII 362
Huber/White estimators 353
human development index (HDI) 362
Islamic countries 349–50, 354, 357–8, 359–61
Italy 346
Latin countries 352–3, 354, 357–8, 360–61
men’s points 354, 357–8, 360–61
North America 349
Northern Europe 349
Olympics 345, 346, 349
ordinary least squares (OLS) regression 353, 354
parliamentary share 355–7, 360 per capita income 353
performance of women’s versus men’s teams 351
political factors 350
population 353, 354, 357–8, 360–61
religious factors 349
socioeconomic factors 353
Union of European Football Associations (UEFA) Women’s Champions League 347
United States 346–7, 357–9
Women’s Professional Soccer (WPS) 347
Women’s Soccer Association (WUSA) 347
Women’s World Cup 346–7, 349
Iran 67
Ironman Triathlon World Championships 163
Islamic countries and soccer 4, 349–50, 354, 357–8, 359–61
Islamic culture, barriers caused by 65–7
Jackson, Lauren 415
Jaeger, Andrea 158
Japan
football 369, 373–4, 376, 379
Japanese women in United States
golf 15
Nadeshiko women’s soccer league
379
Javits Amendment (1974) 178
Johnson, Lyndon 177
Jones, R. 393
Kane, L. 393
Kaufman, Michelle 381–2
Kawabuchi, Saburo 379
Kelly, Craig 422
Kerr, Christie 392
Khasi (matrilineal society) (India) 298
Killy, Jean-Claude 117
Kim, M.H. 393
Knowles, Mark 416
Korean Ladies Professional Golf
Association (KLPGA) 390, 394–5, 396–9, 400–403, 404, 407–8
Kournikova, Anna 156, 382
lacrosse 182
Ladies European Tour (LET) 397–9
Ladies Professional Golf Association
(LPGA): economic analysis of
influx of Korean female golfers 12, 388–408
annual travelling costs 402
Australian Ladies Professional Golf 397
broadcasting rights 388
consumer discrimination 389
driving accuracy 405–6, 407
driving distance 405
earnings 390, 395, 401
golf skills 405–6
green-in-regulation 405–6
Herfindahl–Hirschman index (HHI) 403–4
historical overview 390–94
immigration decision model 394–6
Japanese Ladies Professional Golf
Association (JLPGA) 389, 394, 397–402, 407
Korean Ladies Professional Golf
Association (KLPGA) 390, 394–5, 396–9, 400–403, 404, 407–8
Ladies European Tour (LET) 397–9
mental fortitude 401–2
migration patterns 402–5
number of Korean players in tour by
year 394
number of tournaments in four
different golf tours 398
payoff difference 407
percentage of top 10 finishes by
nationality 392
prize money 397–402
putting 405–6, 407
self-selection 390, 396
sponsorship 397–402, 407
titles earned by US, international,
Asian and Korean golfers 391
top 10 prize winners 393
total purse of four different golf
tours 399
TV ratings 407
Ladies Professional Golf Association
(LPGA) data 5, 6
Ladies Professional Golf Association
(LPGA) Tour 96, 100, 102–7, 109–11
age restrictions 7, 157, 159
gender-differential responses to
economic contests 325
Korean women 15–16
skill convergence and gender 73–4, 76–89
Latin countries 352–3, 354, 357–8, 360–61
Lee, Young Hoon 15–16
lesbianism stigmatization 65
Lilly, Kristine 381
Loehr, Jim 158
‘Looking-Glass Self Model’ 59
low-energy availability (LEA) 64, 68
Lucic, Mirjana 163
McCoughtry, Angel 147
McMahon, Sharelle 422
Major League Baseball (MLB) 258, 264
age restrictions 161, 162
consumer discrimination 389
gender-differential responses to economic contests 323
Major League Soccer (MLS) 375
marathons 98–9, 121–2, 326
marginal physical product (MPP) 320
marriage and sports attendance 3
Marta 376
Massai (patrilineal society) (Tanzania) 298
matrilineal and patrilineal societies 298
Matthew, C. 393
media coverage see basketball and netball in Australia
Mellon Foundation Graduate Education Initiative 295
Men’s World Cup 368–74
menstrual cycle disruption 64
Montsho, Amantle 65
Moore, Maya 147
muscular and skeletal development 160
Naismith, James 416
NASCAR racing 124–5
National Basketball Association (NBA) 147, 150–53, 414
age restrictions 159, 161, 165–6
consumer discrimination 389
gender differences in competitive balance 259, 262–3
overstatement of scoring value 7
revenues and subsidies 214
and the Women’s National Basketball Association (WNBA) 133–7, 139–40, 142–4
National Basketball League (NBL) 414, 415
National Collegiate Athletic Association (NCAA) 9, 11, 12
coaching 269, 271, 284, 285
see also basketball and gender differences in competitive balance; revenues and subsidies; Title IX
National Collegiate Athletic Association (NCAA) Division IA and Proposition 16 impact on academic standards and graduation rates 10, 233–47, 249–50
American College Testing (ACTs) scores 234, 243, 245
basketball 236
Bayes’ theorem 237
data 236–8
difference-in-differences (DiD) technique 235, 239–43, 245, 249–50
empirical results 243–5
federal action lawsuit (Cureton and Shaw) 235
football program 235–6
graduation rates 238
independent variables, sign and significance of 244
logit regressions 240–41, 244
ordinary least squares (OLS) regression 243–4
racial impacts 235
Stage One of Proposition 16 237, 249, 250
Stage Two of Proposition 16 237
Standard Aptitude Tests (SATs) scores 234, 243
summary statistics 242
National Football League (NFL) 161, 162–3, 214, 323
National Hockey League (NHL) 161, 323
negative feedback and impact on performance 319–20, 327, 331, 333, 336, 337
negotiating practices and competitiveness 296
Neill, Lucas 416
netball 2, 12
collective bargaining agreement (CBA) 416
see also basketball and netball in Australia
Netherlands 296
New Zealand 418, 420, 421
Nielsen, Matt 415
Nigeria 65
Nixon, Richard 177, 213
North America 349
North Korea 160
Northern Europe 349
nurture 95, 297

Ochoa, Lorena 392
Office for Civil Rights (OCR) 179, 208–9
‘old-boy’ network 52
Olympics 8, 14, 367–74, 413
  basketball 410, 412
  figure skating 328–37, 343
  soccer 336, 345, 349
ordinary least squares (OLS)
  regression 9, 13, 81
  age restrictions 164
  basketball 221–2, 243–4
  competitiveness and gender differences 310–11
  figure skating 333
  golf 104, 110
  skiing 125, 126–9
  soccer 353, 354
  Title IX 198, 200, 201–3, 205
Overbeck, Carla 381
overconfidence 299
overwork, vulnerability to 157

Pak, Se Ri 388, 389–90, 391, 393, 396, 397–8, 402
Pan American Games 372
pay see earnings
Pecout, Adrien 378
peer groups 62–3
Pepper, D. 393
performance-enhancing drugs see drug-testing
physical differences and competitiveness 293
Plushenko, Evgeny 331
political factors 350
predispositions and competitiveness 293
Pressel, Morgan 160
prize money
  golf 94, 96, 100, 103, 105, 108, 109, 111
  skiing 120, 121, 122, 124–5, 126, 128–9
probit models 34–5, 204–8
Professional Golf Association (PGA) 406
data 5, 6
gender and skill convergence 73–4, 76–89
gender-differential responses to economic contests 321–3
Professional Golf Association (PGA)
  Tour 96–7, 100, 102–5, 107–11
  age restrictions 161
Asian men 15
proportionality see Title IX
Proposition 16 see National Collegiate Athletic Association (NCAA) Division I and Proposition 16
Proposition 48 234–5
public image 160
quantile regression 9, 13, 81, 201
  basketball 2, 214–15, 222
  competitiveness 310, 312
racing see running
Rampone, Christie 376
rank-order tournaments (ROTs) 5–6, 12, 319, 321
  figure skating 319, 321, 338
  skiing 115, 116–17
rating percentage index (RPI) 280
reaction to competition 92
regression analysis 198–204
see also ordinary least squares regression; quantile regression
religion factors 349
revenues and subsidies in National Collegiate Athletic Association (NCAA) Division I women’s basketball 213–30, 232, 236
  average revenues by category 219
  away-game guarantees 226
  broadcast rights 217–19, 232
  contributions 216–19, 228–9, 232
  data analysis and model 215–22
  direct revenues 216, 220, 222, 224
draft 222–7
Equity and Athletic Disclosure Act (EADA) data 214–15
game day sales 217–19, 232
government support 217–19, 232
guarantees 232
indirect revenues 226
indirect support 217–19, 232
institutional support 216–19, 226–9, 232
investment income 217–19, 232
marginal revenue product (MRP) 214–15, 219–24, 229–30
metrostatistical area (MSA) population 221, 222–5
NCAA/conf. distributions 217–19, 232
ordinary least squares (OLS) regression 221–2
professional draft 220–21
quantile regression 214–15, 222
rank 221–5
ratings performance index (RPI) 221
results 222–5
revenues and expenses 217, 232
royalties and advertising 217–19, 232
sports camps 217–19, 232
student fees 216–19, 226–8
subsidies and transfers 225–9
summary statistics 222
third party support 217–19, 232
ticket sales 216–19, 222–4, 226, 228–9, 232
total revenues 216–20, 222, 225, 226, 229
revenues and expenses 217, 232
royalties and advertising 217–19, 232
sports camps 217–19, 232
student fees 216–19, 226–8
subsidies and transfers 225–9
summary statistics 222
third party support 217–19, 232
ticket sales 216–19, 222–4, 226, 228–9, 232
total revenues 216–20, 222, 225, 226, 229
reward structures 4
risk aversion and risk taking 295, 296, 297
risk preferences 92
role conflict/strain 4, 57–60, 62–5, 67, 68
role models and mentors, lack of 52, 54
Rubens, Paul 61
running/racing 299–300
100m distance race 301–8
age restrictions 163
Australia 42
competitiveness and gender differences 299, 301–8
distance running/racing 98–9, 116, 122
foot races 116, 121
gender differences in response to incentives 97–9
gender-differential responses to economic contests 326–7
half marathons 121
long-distance 299
road 98–9, 128, 323
sprinting 12–13
ultramarathons 98, 299
salaries see earnings
Saudi Arabia 66, 67
scholarships 278–9
Scott, Larry 158
Seles, Monica 156
self-esteem 63
self-image 62–3
self-selection 185
age restrictions 165–6
competitiveness and gender differences 299–300
figure skating 338
golf 2, 101, 390, 396
skiing 129
semi-professionals in football 376, 379
Senior Professional Golf Association (SPGA) Tour 77–9, 82
sex discrimination elimination see Title IX
sexualization of women’s sport 65, 381–4
Shabelman, Doug 382
Shalala, Donna 175
Sherman Antitrust Act (1890) 7, 161–2
Shin, Jiyai 389–90, 402
skiing: earnings and performance 2, 6, 115–30
data 122–5
Downhill 117–18, 122–5, 126–9
effort 120, 121, 122, 123
empirical analysis 125–8
Fédération Internationale de Ski (FIS) Alpine Ski World Cup 116, 117–19
gender differences 129
gender gap 122
gender preferences 117
GIant Slalom 117–18, 122–4, 126–9
heteroskedasticity correction 126
interquartile range 126, 128–9
ordinary least squares (OLS) regression 125, 126–9
prediction, empirical tests of prize structure 120, 121, 122, 124–5, 126, 128–9
race time 123
rank-order tournaments with nonlinear payoffs 115, 116–17
scoring system 119
self-selection 129
Slalom 117–18, 129
speed events see Downhill; Super-G
standard deviation 126, 128–9
STATA 126
summary statistics 123
Super-combined 117–18
Super-G 117–18, 129
talent and ability 120, 121
technical events see Giant Slalom; Slalom
tournament theory 116, 119–22, 124, 126
unobservable heterogeneity 125, 129
White–Huber ‘sandwich’ correction 126
soccer 1, 12, 14–15, 182
Australia 42, 49
coaching 276–8
media coverage 413–14
see also economic impact of Women’s World Cup; football; international women’s soccer and gender inequality
social preferences 92
socialization 61, 293, 297, 311
socialization and enjoyment of sport 43–4, 46–8, 50, 51, 53, 54
socio-cultural factors and competitiveness 293
socioeconomic factors 353
sociological determinants of participation 56–68
athletics 62–5
behavioral conflict 64–5
body images: visual representation of status 60–61, 67
body types 60–61
bone density, low 64
cultural factors 57, 58
cultural lag 56, 59, 64–5, 67
disordered eating 62, 63–4, 68
exercise, excessive 68
‘Female Athletic Triad’ 64
gender distinctions 64
Islamic culture, barriers caused by 65–7, 68
judged sports 63
lean sports 63–4, 68
‘Looking-Glass Self Model’ 59
low-energy availability (LEA) 64, 68
material culture 56
menstrual cycle disruption 64
non-lean sports 64–5
non-material culture 56
norms 58
peer groups 62–3
role conflict/strain 57–60, 62–5, 67, 68
self-esteem 63
self-image 62–3
socialization 61
statuses, achieved/ascribed 57–60
subcultures 57–8
United States 62–5
values 58
softball 1, 12
see also under coaching
Solo, Hope 382
Song, Aree 160
Sorenstam, Annika 392, 393
South Africa 65
South America 313
sponsorship 375
basketball and netball 410
golf 397–402, 407
sports capital 3, 25–7, 31–2
Stanley v. University of Southern California 282
Stosur, Samantha 115
superstar effects 108, 312
Sweden 297, 299
football 369, 371–2, 376, 379–80, 383
swimming 42, 163
Swoopes, Sheryl 381–2
team-work 293–4
tennis 7, 116, 121
age restrictions 156–7, 158, 159, 162, 164
Australia 42, 49, 50
coaching 276–8
Index

competitiveness and gender differences 300
dependencies 380–82
gender differences in response to incentives 97, 99–100
gender-differential responses to economic contests 323, 325–6, 336
Tessmer, Karen 270
Thompson, Alexis (Lexi) 157, 160
Title IX 8–9, 11, 175–210, 213, 236, 358
accommodation of interests 178
admission preferences 183
applicants admitted, percentage of 200
basketball 175, 420
budget constraints 188–9
compliance 3 and 5 percent thresholds 206–7
continued program expansion 178
data and estimation 189–208
probit analysis of noncompliance 204–8
proportionality and compliance, time trends in 191–5
proportionality gaps and compliance 195–8
regression analysis 198–204
sample selection 190–91
enforcement and compliance rules 180
enrolled of those admitted, percentage of 200
Equity in Athletics Disclosure Act (EADA) 179, 180, 189–90, 191
evolution of the law 177–9
football 175, 183–4
funding 175, 182
geographical region 201, 205
health-care costs 182
historically black college or university (HBC) 198–9, 201, 205
inception 177
Integrated Postsecondary Education Data System (IPEDS) 189–90, 198
National Collegiate Athletic Association (NCAA) 176, 179, 180–82, 186, 191, 192, 198–9, 200–205
National Collegiate Athletic Association (NCAA) Division I 181, 183–4, 191–5, 197–8
National Collegiate Athletic Association (NCAA) Division II 181, 191–5, 196, 197–8, 200, 202–3, 206–7
National Collegiate Athletic Association (NCAA) Division III 181, 191–6, 197–8, 199, 200, 202–3, 206–7
non-National Collegiate Athletic Association (NCAA) schools 190–91, 197, 199, 201, 205, 208
noncompliance 189, 192, 194, 195
noncompliance, impact of penalties of 188
noncompliance, persistence of 194
noncompliance as utility-maximizing choice 187
ordinary least squares (OLS) regression 198, 200, 201–3, 205
positive outcomes 185
positive proportionality gap 194
previous empirical work 180–87
proportionality 205
proportionality compliance 180–84
proportionality gap 179, 180–82, 184, 191, 192, 193–4, 198–204
quantile regressions 201
revenues and subsidies 230
reverse discrimination 175
reverse proportionality gaps 194
self-selection 185
six-year graduation rate 200–201
sociological determinants of participation 62
sports offerings and proportionality compliance 180
substantial proportionality 178–9, 208
substitution effect 189
theoretical model of institutional response 186–9
trends in high school sports 182
undergraduate enrollment coefficients 204
<table>
<thead>
<tr>
<th>Tournament theory</th>
<th>5, 111, 116, 119–22, 124, 126</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tower Amendment (1974)</td>
<td>178, 183</td>
</tr>
<tr>
<td>Trans-Tasman Netball League (TTNL)</td>
<td>421–2</td>
</tr>
<tr>
<td>Trivialization of women’s sport</td>
<td>65</td>
</tr>
<tr>
<td>Union of European Football Associations (UEFA)</td>
<td>377</td>
</tr>
<tr>
<td>Women’s Champions League</td>
<td>347</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>295–6, 324, 376–8, 417–18</td>
</tr>
<tr>
<td>United States</td>
<td>basketball 116, 410, 420</td>
</tr>
<tr>
<td>Competitiveness and gender differences</td>
<td>312</td>
</tr>
<tr>
<td>Golf Association (USGA)</td>
<td>73</td>
</tr>
<tr>
<td>London Olympics</td>
<td>8</td>
</tr>
<tr>
<td>Netball</td>
<td>116, 417</td>
</tr>
<tr>
<td>Open 115</td>
<td></td>
</tr>
<tr>
<td>Soccer</td>
<td>346–7, 357–9</td>
</tr>
<tr>
<td>Sociological determinants of participation</td>
<td>62–5</td>
</tr>
<tr>
<td>Trends in high school sports</td>
<td>182</td>
</tr>
<tr>
<td>Women’s World Cup</td>
<td>365, 367, 369, 371–2, 374–5, 380, 383</td>
</tr>
<tr>
<td>See also in particular</td>
<td>Golf: gender and skill convergence; Women’s National Basketball Association (WNBA)</td>
</tr>
<tr>
<td>‘Usain Bolt effect’</td>
<td>305</td>
</tr>
<tr>
<td>Volleyball</td>
<td>276–8, 381</td>
</tr>
<tr>
<td>Wade, Virginia</td>
<td>115</td>
</tr>
<tr>
<td>Wambach, Abby</td>
<td>382–3</td>
</tr>
<tr>
<td>Webb, Karrie</td>
<td>96–7, 392, 393</td>
</tr>
<tr>
<td>Whalen, Lindsay</td>
<td>142–7</td>
</tr>
<tr>
<td>White, David</td>
<td>421–2</td>
</tr>
<tr>
<td>Wie, Michelle</td>
<td>392</td>
</tr>
<tr>
<td>Williams, Venus</td>
<td>156</td>
</tr>
<tr>
<td>Women’s Football Association (WFA)</td>
<td>377–8</td>
</tr>
<tr>
<td>Women’s National Basketball Association (WNBA)</td>
<td>6–7, 9, 11, 132–54</td>
</tr>
<tr>
<td>Adj.P40 value across positions</td>
<td>145</td>
</tr>
<tr>
<td>Age restrictions</td>
<td>7, 157, 159</td>
</tr>
<tr>
<td>Assists</td>
<td>142–3, 146, 150, 151</td>
</tr>
<tr>
<td>Attendance</td>
<td>133–5</td>
</tr>
<tr>
<td>Blocked shots</td>
<td>142–3, 145, 150</td>
</tr>
<tr>
<td>Broadcast coverage</td>
<td>134</td>
</tr>
<tr>
<td>Broadcast revenues</td>
<td>153</td>
</tr>
<tr>
<td>Collective bargaining agreement (CBA)</td>
<td>137, 139</td>
</tr>
<tr>
<td>Competitive balance</td>
<td>135–7</td>
</tr>
<tr>
<td>Core players</td>
<td>139</td>
</tr>
<tr>
<td>Corporate branding</td>
<td>134–5</td>
</tr>
<tr>
<td>Defensive efficiency</td>
<td>140–41, 142</td>
</tr>
<tr>
<td>Defensive rebounds</td>
<td>141</td>
</tr>
<tr>
<td>Dispersal draft</td>
<td>137</td>
</tr>
<tr>
<td>Draft position</td>
<td>151</td>
</tr>
<tr>
<td>Field goals</td>
<td>140–41, 142–3, 145</td>
</tr>
<tr>
<td>Foul shots</td>
<td>141</td>
</tr>
<tr>
<td>Fourth Year Option</td>
<td>138</td>
</tr>
<tr>
<td>Free agency</td>
<td>137</td>
</tr>
<tr>
<td>Free throws</td>
<td>141, 142</td>
</tr>
<tr>
<td>Gender differences</td>
<td>263–4</td>
</tr>
<tr>
<td>Historical background</td>
<td>137</td>
</tr>
<tr>
<td>Inter-seasonal balance</td>
<td>153</td>
</tr>
<tr>
<td>Labor market</td>
<td>137–9</td>
</tr>
<tr>
<td>Media coverage and pay</td>
<td>410, 414</td>
</tr>
<tr>
<td>Minutes per game, determinants of</td>
<td>151, 152</td>
</tr>
<tr>
<td>Modeling wins</td>
<td>139–44</td>
</tr>
<tr>
<td>Noll–Scully ratio</td>
<td>135–6</td>
</tr>
<tr>
<td>Offensive efficiency</td>
<td>140–41, 142</td>
</tr>
<tr>
<td>Offensive rebound</td>
<td>141</td>
</tr>
<tr>
<td>Offer sheet</td>
<td>138</td>
</tr>
<tr>
<td>Pareto principle</td>
<td>147</td>
</tr>
<tr>
<td>Personal fouls</td>
<td>142, 150, 151</td>
</tr>
<tr>
<td>Playoff appearances</td>
<td>136–8</td>
</tr>
<tr>
<td>Points scored</td>
<td>143, 153</td>
</tr>
<tr>
<td>Points surrendered</td>
<td>143</td>
</tr>
<tr>
<td>Points-per-shot</td>
<td>140–41</td>
</tr>
<tr>
<td>Possession</td>
<td>141, 143, 150, 153</td>
</tr>
<tr>
<td>Profits</td>
<td>133–5</td>
</tr>
<tr>
<td>Rebounds</td>
<td>141, 150, 153</td>
</tr>
<tr>
<td>Reserved Players</td>
<td>137–8</td>
</tr>
<tr>
<td>Restricted Free Agents</td>
<td>137–8</td>
</tr>
<tr>
<td>Revenues</td>
<td>133–5, 152–3, 214</td>
</tr>
<tr>
<td>Reverse-order draft</td>
<td>137</td>
</tr>
<tr>
<td>Salary capping</td>
<td>153</td>
</tr>
<tr>
<td>Salary scale</td>
<td>139</td>
</tr>
<tr>
<td>Scoring</td>
<td>150, 151</td>
</tr>
<tr>
<td>Shooting efficiency</td>
<td>150, 153</td>
</tr>
<tr>
<td>Standard deviation</td>
<td>135–6</td>
</tr>
<tr>
<td>Steals</td>
<td>150, 153</td>
</tr>
<tr>
<td>Subsidies</td>
<td>214</td>
</tr>
<tr>
<td>Top 40 players</td>
<td>148–9</td>
</tr>
</tbody>
</table>
traded players 150
turnovers 141, 145, 150, 153
Unrestricted Free Agents 137–8
value of player and team statistics 144
winning percentage determinants 142
wins 144–7
Women’s National Basketball League (WNBL) 415, 421–2, 423
Women’s National Basketball Players’ Association (WNBPA) 159
Women’s Professional Golf Association (WPGA) 73
Women’s Professional Soccer (WPS) 347, 375–6

Women’s Super League (WSL) 376
Women’s Tennis Association (WTA) 1, 7, 116, 157, 158, 163–5, 166–7
Women’s United Soccer Association (WUSA) 347, 375
Women’s World Cup 14–15, 346–7, 349

see also economic impact of Women’s World Cup
work–life balance 270
WPSL 376

Young, Liam de 416

Zavian, Ellen 381, 384