

Index

abnormal experience theory, 455-456 signals sent by, 329-330 abnormal inference theory, 455 actively open-minded thinking (AOT), 574-590 absolutism, epistemological, 576-578 accessibility of, 581-582 absorption, religious beliefs and, 214-215 belief improvement through, 575-576 abstract representations, 156 definition of, 576-578 abuse victims, 103-106 efficacy of, 578-580 accountability, debiasing training compared epistemic authority selection using, 580-581 with, 567-568 myside bias and, 470-472, 582 accuracy political belief formation and, 279-280, 285 actively open-minded thinking to improve, strategies to increase probabilistic thinking, 585-586 574-590 replacement of argumentative essays with accessibility of, 581-582 belief improvement through, 575-576 dialogues, 584-585 replacement of debate with discussion, 583 definition of, 576-578 efficacy of, 578-580 teacher importance in, 586 epistemic authority selection using, as tool for understanding rather than 580-581 persuasion, 582 adaptive memory, 181 strategies to increase, 583-586 as tool for understanding rather than adaptive mismatch, 179-180 persuasion, 582 advertisements, 76, 79-80 individual differences leading to, 283-286 affect. See emotion affective consequences, of intuitive or reflective in political belief formation, 280, 282-283, 300-302 misbeliefs, 193-198 possibility of, 575-576 Affective Intelligence Theory (AIT) situational factors leading to, 286-290 political belief formation and, 286-287 acquisition, belief. See belief acquisition political belief updating and, 304-306 action. See also belief-action gap African Americans "diseases" of, 403, 407-409 belief as causal variable in, 58 commitment to, linguistic analysis of belief essentialism within legal system and, 269 and, 47-50 political beliefs of, 307-308 cultural misbelief role in costly, 193-194, rules of inclusion and exclusion as, 401 205-206 sports abilities of, 403, 409-411 evolutionary benefits of, 10-11 agency confabulation benefits for, 101-103 instrumental irrationality and, 92-97 intuitive theories motivating, 357, 360-361, irrationality and, 92-97 pro-environmental behaviors and, 541 364-365 prediction of, belief use in, 57-58 agential rationality, 444-445 action-oriented knowledge, in belief-action gap, AIER. See American Institute for Economic Research AIT. See Affective Intelligence Theory actions aliefs, 77 pro-social versus pro-individual, 380-382



Index 593

alliances, religious belief role in, 247-250 attitude-behavior gap, in environmental Alzheimer's disease, 458-459 psychology, 536-537, 545-547 American Institute for Economic Research information deficits and structural barriers contributing to, 539-541 (AIER), 374-375 American politics, 298-299, 312-313 measurement issues contributing to, 537-539 psychological factors contributing to, 541-544 belief formation and, 299-300 attitudes. See also propositional attitude belief systems and ideologies in, 298-300 belief updating and, 300-302 actional, 47-50 commitment to norms as, 50-53 elite influence role in, 302-303 emotion role in, 304-306 credal, 157-158, 194-195 individual susceptibility to bias and functions of, 12 influence in, 303-304 implicit, 73-76 consequences of incoherent political beliefs normative, religious credences and, 238-240 for, 298-299, 310-312 toward people involved in legal system, group-based influences in, 306-307 261-264 party polarization, 308-310 in political belief formation, 280-282, race and ethnicity, 307-308 299-302 myside bias in, 465-472 reflective, 156-157, 160, 194 orientation development and, 313 secondary, 77 analgesia, belief role in, 58-60 attribution theory, 60-61 analytic functionalist theory of belief, 56-58 atypical items, schematic knowledge effects on, ancestors, religious beliefs in, 237-238, 241-245 123-126 anchoring, 561-562 authority anger, in political belief updating, 304-306 epistemic, 580-581 animals, belief capabilities of, 64-66 religious, 238-240 anosognosia, 94-95 autism anthropology medical testing for, 341 cognitive, 525 theory of mind in, 63 cultural, 488-489, 518-523 automatic processing, 173-175, 557-559 avoidance, information, 335, 341-342 race concept rejection in, 399-403 anthropomorphism, in religious representations, awareness, political belief formation and, 237-238 299-300 anticipatory emotions, 328-329 anti-doxastic views, 443-446 BADE. See bias against disconfirmatory evidence anti-science movement. See science denial Bayesian networks, 144-145 anti-vaccination beliefs, 198-200, 202, 341-342 Bayesian probability belief updating, 8–10, 71–73, 421–424 anxiety in political belief formation, 286-287 incorrect prior knowledge and, 16-21 in political belief updating, 304-306 political beliefs, 300-302 human use of, 135–146 AOT. See actively open-minded thinking architectural beliefs. See intuitive beliefs language of thought models and, 73-76 of learning, 74 argumentative essays, dialogue replacement of, 584-585 of reconstructive memory, 118-123 Asian Americans, political beliefs of, 307-308 behavior. See also attitude-behavior gap assimilation, biased, of information, belief as causal variable in, 58 576-578 belief caused by, 195-196 association belief gap with, 11–12 belief as, 421-424 context effects on, 70-71 delusions and, 425 cultural misbelief role in costly, 193-194, asymmetric belief-updating, 335-336 205-206 common behaviors linked with diverse attention belief relationship to, 343 misbeliefs, 198-200 belief updating and, 421-424 conspiracy theories, 203-205 delusions and, 428-429 of intuitive compared with reflective beliefs, 193-198, 201-205



594 Index

behavior. (cont.) social consequences of, 338-339 rumors, 201-203 belief diffusion, in populations, 220-221 evolutionary benefits of, 10-11 belief formation. See belief acquisition belief identification, 71-73, 576-578 intuitive theories motivating, 357, 360-361, belief maintenance, in populations, prediction of, belief use in, 57-58 220-221 pro-social versus pro-individual, 380-382 belief origin or generation, in populations, signals sent by, 329-330 220-221 behavioral change, belief-action gap and, belief processes, 8-10. See also specific processes belief rejection, 66-68, 80 545-547 behavioral consequences, of misbeliefs, 193-198 belief storage, 5-7, 68-71, 79-80 behavioral disposition, belief identification with, belief superiority, 472-474 belief updating, 8, 79-80 belief, 1-2. See also specific topics asymmetric, 335-336 attention and, 421-424 advantages of, 5-8 Bayesian, 8–10, 71–73, 421–424 cognitive perspective on, 5-8 constraints on, 326, 343 incorrect prior knowledge and, 16-21 definition of, 3-4, 322, 421-424 political beliefs, 300-302 delusion as dysfunctional evaluation of, delusions and, 424-426, 428-429 427-430 intra-personal consistency and, delusions versus 330-331 anti-doxastic view of, 443-446 political, 300-302 doxastic view of, 443-444, 446-448 elite influence role in, 302-303 norms of rationality and, 444-445 emotion role in, 304-306 full and partial, 78 individual susceptibility to bias and functions of, 8, 10-12, 172 influence in, 303-304 irrationality of, 13, 21-23 prior knowledge role in, 16-21 social network effects on, 432-433 computational constraints and, 14-16 epistemic tradeoffs and, 13-14 belief-action gap, 11-12 prior knowledge effects and, 16-21 in environmental psychology, 536-537, 540, kinds of, 77-78 545-547 mechanics of, 8-10 information deficits and structural barriers metacognitive effects on, 78 contributing to, 539-541 possibility of improvement of, 575-576 measurement issues contributing to, rationality norms of, 444-445 537-539 ubiquity of, 55-56 psychological factors contributing to, belief acquisition, 66-68, 79-80, 524-525 541-544 intuitive theory origins, 355-356 belief-based utility, 325, 342-344 perception and spontaneous inference in applications of, 339 intuitive, 164-168 in finance, 340-341 political, 279-280, 299-300 in healthcare, 341-342 in organizational behavior, 342 accuracy motivation and reflection in, 280, 282-283, 300-302 in politics, 339-340 directional motivated reasoning in, consequences of 280-282, 300-302 biased information processing, 335-336 future research directions in, 290-291 decision making under risk and uncertainty, individual differences in, 283-286 models of, 299-300 ideological conformity and segregation, situational factors in, 286-290 338-339 in populations, 220-221 information avoidance, 335 belief box, 154–155 intertemporal choice, 336-337 belief change. See belief updating overconfidence and overoptimism, 338 definition of, 326-327 belief consonance evolutionary psychology insights into, 326 evolutionary origins of, 334-335 human preference for, 333-334 history of, 327-328



from other people's beliefs	bias against disconfirmatory evidence (BADE),
direct concerns about others' beliefs,	424-425, 456-458
333-334	bias blind spot, 561–562, 566
evolutionary origins of, 334–335	biased assimilation, 576-578
role of others' beliefs in economic models,	biological diversity, among humankind, 399-403
332-333	biological race
sources of	cultural race versus, 399
beliefs about future outcomes and	false belief in, 398–399
anticipatory emotions, 328-329	hope for future of, 399–411
beliefs about self and ego-utility, 329–330	intelligence arguments, 403-406
value from intra-personal consistency of	medicine and healthcare arguments, 403,
beliefs, 330–331	407-409
pelittlement, delusion of, 441, 458–459	physical feature arguments, 399-403
oias. <i>See also</i> debiasing training	sports ability arguments, 403, 409–411
actively open-minded thinking to correct,	bipolar disorder, 441–443, 458–459
578–580	bizarre delusions, 450
cognitive, 11-12	Black people
bounded rationality and, 14–16	"diseases" of, 403, 407–409
debiasing training for, 557–568	essentialism within legal system and, 269
failure and, 20	group consciousness in, 307-308
individual difference variables in, 466–470	intelligence of, 403–406
intuitive beliefs leading to, 174–175	rules of inclusion and exclusion as, 401
confirmation	sports abilities of, 403, 409–411
as consequence of belief-based utility,	blind spot, bias, 561–562, 566
335–336	bloodletting, 195–196, 198
debiasing training for, 561–565	Boolean logic, 136
in information search, 576–578	bounded rationality, irrationality of beliefs and,
in political belief formation, 280–281,	14–16
300–302	brain damage, delusions associated with,
content or direct, 212, 220	427-430
in decision making, 557–560	brainwashing, 79–80
disconfirmation, 280–281, 300–302	bystander intervention, 196–197
domain generality of, 472–474	
hindsight, 119–120	CA. See cultural attractors
in human search for evidence, 8–12	Capgras delusions, 94–95, 441, 444–445
individual susceptibility to, 303–304	prediction error in, 430–431
inductive, 213	2-factor theory of, 427-430, 456
in information processing, 335–336	Capitol building, U.S., January 6, 2021 riots at,
in information search, 576–578	298–299, 305, 311, 575–576
in intuitive beliefs, 177–178	carbon footprint, belief-action gap in, 542–544
jumping to conclusions, 424–425, 456–458	Cartesian Model, of belief acquisition, 66–68
in memory, 113–116, 118–123	categorical thinking, 576–578
myside, 465–466, 582	categories
domain generality of, 472–474	features as beliefs about, 78
individual differences in, 466–472, 476–477	schematic knowledge effects on atypical items
irrationality of, 474–476	in, 123–126
memetics theory applied to, 477–480	causal variable, belief as, 58
normative appropriateness of, 474–476	causal-role functionalism, of mental states,
as psychological trait, 472–474	445–448
pay-off, 212	CCCS. See cross-cultural cognitive science
in placebo effects, 59	change, belief. See belief updating
in political beliefs, 280–282, 300–305	chauvinism, 64 cheaters, detection of, 179, 210
recognition and discrimination of, 565–566 social desirability, 538	cherry-picking, science denial use of, 384
transmission, 213	chunked beliefs, 7–8
	circumed beliefs, / o



Church-Turing thesis, 145–146	cognitive domains
circumscribed delusions, 444-445	domains of reality, 236–237
civic duty, political belief formation and,	religious beliefs as unexceptional, 235-236,
289–290	238–240
civil liberties, COVID-19 policies in loss of,	Cognitive Gadgets hypothesis, 209
377–380	cognitive load
climate change	analytic processing effects of, 177–178
belief-action gap in, 536–537, 539–544	belief acquisition effects of, 66–68, 80
conspiracy theories and, 375	primary belief reduction of, 182–183
COVID-19 denial similarities with denial of,	cognitive modeling. See Thurstonian models
374–377	cognitive modules
scientific reasoning and, 575–576	standard evolutionary psychology concept of
as social dilemma, 380–382	210
climate denial	2-factor theory and, 428
civil liberty loss and lived experience role in,	
• _	cognitive psychology beliefs through lens of, 5–8
377–380	individual differences in models of, 488–489
politics role in, 374–377, 387–389	
recommendations for addressing, 386–387	Cognitive Reflection Task (CRT), 285–286
science versus, 382–386	cognitive rigidity, 576–578
social dilemma of, 380–382	cognitive science. See also cross-cultural cognitive science
clinical delusions, epistemic irrationality in,	
94–95	belief occurrence in
closure, need for, 576–578	attribution theory, 60–61
Coalition airstrikes, Iraq rumors of, 201	comparative cognition, 64–66
coalitions, religious belief role in formation of,	placebo effects and reward prediction erro
247–250	learning, 58–60
cognition. See also comparative cognition	theory of mind, 61–63
belief as causal variable in, 58 complexity of human, 135–146	ubiquity of, 58, 66 delusion explanations from, 454–455
data-base of, 154–155	abnormal experience theory, 455–456
beliefs in, 157–158	abnormal inference theory, 455
disquotational incontinence and, 158–160	normal cognitive functioning importance
	in, 458
metarepresentations in, 160 representational capacity and, 161–164	prediction error, 421–426, 428–431
simultaneous intuitive and reflective beliefs	2–factor theory, 427–431, 456–458
in, 168–170	
dual–process framework of, 177–182	variations in, 458–459 cognitive science of belief, 23, 55–80. <i>See also</i>
	2
need for, 283–284, 470–472 primary and secondary beliefs in, 180–183	specific topics acquisition processes, 66–68, 79–80
religious beliefs processes, 235–241 structure of, 73–76	change processes, 8–10, 71–73, 79–80 prior knowledge role in, 16–21
cognitive ability	future directions for, 76–80
myside bias and, 466–470	human rights and, 515–516, 524–530
race and, 403–406	reasons for establishing, 56–58, 66
cognitive anthropology, 525	senses of term of, 33–34
cognitive bias, 11–12	storage processes, 5–7, 68–71, 79–80
bounded rationality and, 14–16	structure of thought, 73–76
debiasing training for, 557–568	collective action, religious belief role in, 247–25
failure and, 20	collective optimality, individual optimality
individual difference variables in, 466–470	versus, 380–382
intuitive beliefs leading to, 174–175	commitment, in linguistic analysis of belief,
cognitive consequences, of intuitive or reflective	35–36, 43–44
misbeliefs, 193–198	to actions, 47–50
cognitive dissonance, 330–331, 379–380,	alternatives to, 44–47
542-544	to norms, 50–53
) 114) 111	10 11011110, 10-11



common-sense functionalist theory of belief,	social network transmission of, 432-433
56–58	traits of conspiratorial thinking and, 311–312
communication	vaccination, 218
intuitive belief formation through, 164–168	conspiratorial worldview, 217
misinformation correction through, 386–387	constrained optimization, in neoclassical
reflective belief acquisition through, 158–160	economics, 324–325
comparative cognition, belief in, 64–66	constraints, on beliefs, 326, 343
computation, probabilistic models of belief and,	constructive critique, in COVID-19 pandemic,
145–146	384–389
computational cognitive psychology, language of	consumption
thought models and, 73–76	economic concept of, 327
computational constraints, 5-7	green, 539-544
irrationality of beliefs and, 14–16	contaminated mindware, 177–178
of memory retrieval, 116–118, 126–127	content
computational theory of mind, belief change and,	belief, 212, 214, 216–217, 219–222
72	bizarreness of, 450
concept learning, 73–76	evolutionary selection for processes or, 13–14
concepts, intuitive and reflective, 164–168	myside bias dependency on, 472–474,
cultural misbeliefs and, 195	477–480
conceptual change, intuitive theories and,	content bias, 212, 220
366–367	context
conceptual semantics, 37–38	belief sensitivity to, 70–71, 76–78
conclusions, storage of, 5–7	irrationality and, 103–106
condom use, resistance to, 202	in political belief formation, 286–290
confabulations, 101–106	validating, of reflective beliefs, 157–160
confidence, belief-based utility and, 338	control, perceptions of, in essentialism effects or
confirmation bias	punitiveness, 267–268
as consequence of belief-based utility,	conviction, of delusions, 451–452
335–336	conviction-based prior, in myside bias, 474–480
debiasing training for, 561–565	cooperation, pro-environmental behaviors and,
in information search, 576–578	542-544
in political belief formation, 280–281,	coronavirus pandemic. See COVID-19
300–302	correspondence principle, pro-environmental
conflict detection, 175	behaviors and, 537–538
conformity, ideological, 338–339	Cotard delusion, 441, 444–445
conjunction fallacy, 137–138	counterevidence. See evidence
conservatism	CoVaxxy dashboard, 376–377
climate change and COVID-19 denial	COVID-19
association with, 375–377, 387–388	climate change denial similarities with denial
delusion formation and, 456–458	of, 374–377
political ideology of, 299, 477–480 conspiracy theories, 193–194	conspiracy theories of, 374–375, 384
actively open-minded thinking to avoid,	misinformation in, 353–364, 374 civil liberty loss and, 377–380
578–580	collective versus individual optimality and,
climate change and, 375	380–382
consequences of intuitive versus reflective	conclusions and outlook from,
beliefs in, 203–205	387–389
COVID-19, 374–375, 384 cultural evolutionary psychology case study of,	legitimate critical arguments versus, 384–389
	lived experiences and, 377–380
216–217, 219–220 epistemic irrationality in, 94–95	political motivations in, 374–377, 387–389
Kennedy assassination, 72–73, 218	recommendations for scientists and policy
political beliefs and, 298, 302, 309–312	makers to address, 386–387
psychological immune system role in, 72–73	science versus, 382–389
science denial use of, 384	optimism of victims of, 100–103



COVID-19 (cont.)	cultural race
scientific versus intuitive beliefs about,	biological race versus, 399
353-364	sports ability and, 409–411
creationism, 364-365	culture
credal attitudes, 157-158, 194-195	belief and universality conceptualization
credences, 78	across, 518-519
criminal behavior, punitiveness link to essentialist	evoked, 210–211, 219
views of, 254-269	human rights across, 515
Essentialism of Criminality Scale for	beliefs and, 515-516, 518-519, 521-526
measurement of, 256–261, 263	cross-cultural cognitive science of, 515-516
mechanisms underlying, 261-264	526-530
retributive punishment preferences and,	support for, 516-518
264–266	universality concept in, 518–521
critical thinking, 581-582	intuitive theories and, 355-357
cross-cultural cognitive science (CCCS), 515	transmitted, 210–211
of belief in human rights, 515–516, 526–530	Cunningham's Law, 333-334
CRT. See Cognitive Reflection Task	curiosity in science, political belief formation
cues, reliability and uncertainty of, 421-424	and, 279–280, 284
cults	cystic fibrosis, 407–409
millennial, 77–78, 425	3, 222 (27)
religious, 241–243	data-base, of human cognition, 154-155
cultural anthropology, 488–489	beliefs in, 157–158
universality and belief conceptualizations in,	disquotational incontinence and, 158–160
518-523	metarepresentations in, 156
cultural attractors (CA), human rights beliefs as,	representational capacity and, 161–164
528–530	simultaneous intuitive and reflective beliefs in
cultural consensus analysis, 525	168–170
cultural context	De Clérambault's syndrome, 441
delusions and, 431–433	debate, discussion replacement of, 583
irrationality and, 103–106	debiasing training, 557–568
cultural domains, religious beliefs as	barriers to effectiveness of, 566
unexceptional, 235–236, 238–240	durable effects of, 562–563
cultural evolutionary psychology of belief,	generalizability of, 563–566
209–219, 222	length and extensiveness of, 560–562
conspiracy theory case study of, 216–217,	debunking, against misinformation, 386
219–220	decision making. See also heuristics
content of belief, 212, 214, 216–217,	debiasing training for, 557–568
219–222	barriers to effectiveness of, 566
individual conditions, 212–215, 217,	durable effects of, 562–563
220–222	generalizability of, 563–566
merits of, 220–221	length and extensiveness of, 560–562
religious belief system case study of, 214–216,	heuristics and biases in, 557–560
219–220	instrumental irrationality and, 92–97
social dynamics, 212–213, 215, 217–218,	under risk and uncertainty, 337
220–222	utility maximization in, 321–324
the state of the s	deductive closure, human lack of, 14–16
socioecological conditions, 212–218, 220–222 cultural learning, 220–221	deliberation, preparation tradeoff with, 5–7
cultural misbelief, costly behavior link to,	deliberative democracy, political belief formation
193–194, 205–206	and, 287–289
common behaviors linked with diverse	Deliberative Polling, 288–289
misbeliefs, 198–200	deliberative processing, 173–175, 557–559
conspiracy theories, 203–205	delusional disorder, 441–443
of intuitive compared with reflective beliefs,	delusions, 421, 433
193–198, 201–205	beliefs versus
rumors, 201–203	anti-doxastic view of, 443–446



Index 599

doxastic view of, 443-444, 446-448 norms of rationality and, 444-445 clinical criteria for, 421 collective, 338-339 definition of, 421–425, 440 epistemic irrationality in, 94-95 persistence of, 430-431 prediction error in, 421-426 longer term effects of, 428-431 2-factor theory compared with, 428-430 psychopathology of, 454-455 abnormal experience theory, 455-456 abnormal inference theory, 455 normal cognitive functioning importance in, 458 2-factor theory of, 427-431, 456-458 variations in, 458-459 social versus general processes of, 431-433 as symptoms of illness, 440-458 grounds for pathologization, 449-451 implications of pathologization, 452-454 pathological beliefs compared with, 45I-452 themes and associated disorders, 441-443 transmission of, 431-433 varieties of, 441-443 dementia, delusions in, 441, 458 democracy, 298-299, 312-313 consequences of incoherent political beliefs for, 298-299, 310-312 group-based influences in, 306-307 party polarization, 308-310 race and ethnicity, 307-308 political belief formation and, 299-300 political belief systems and ideologies and, 298-300 political belief updating and, 300-302 elite influence role in, 302-303 emotion role in, 304-306 individual susceptibility to bias and influence in, 303-304 political orientation development and, 313 denial. See climate denial; science denial deontic rule, 179 depiction, grammatical parallel of word belief with, 38-43 depression, delusions in, 441-443, 458-459 depressive realism, 97-98 dialogue, argumentative essay replacement by, 584-585 diffusion, of beliefs in populations, 220–221 direct bias, 212, 220 directional motivated reasoning, 279-280 individual differences leading to, 283-286

in political belief formation, 280-282, 300-302 situational factors leading to, 286-290 disconfirmation bias, in political belief formation, 280-281, 300-302 discrimination, against formerly incarcerated people, 254-256 discussion, debate replacement by, 583 diseases, racial, 403, 407-409 disgust, in political belief updating, 305 disinformation. See misinformation disposition in directionally motivated versus reflective reasoning, 283-286 myside bias and, 470-472 political belief formation and, 299-300 disposition effect, investor behavior and, 340-341 dispositional reflection, political belief formation and, 279-280 dispositional system, political belief updating and, 304-306 dispositionalist theories of belief, 68, 77 disquotational incontinence, 158-160 dissonance effects, belief in, 60-61 distress, delusions causing, 421, 428-429 divination, 199, 241-245 doctrinal religions, 245-247 dogmatism, 576-578 domestic abuse victims, irrational beliefs of, 103-106 dopaminergic pathways, belief modulation of, 59 dorsolateral prefrontal cortex, damage to, 427-428 double bookkeeping, in schizophrenia, 444-445 doxastic views, 443-444, 446-448 dual-process framework human rights beliefs and, 525-526 intuitive and reflective beliefs under, 177-182 in judgment and decision making, 557-559 Earth, belief in flat topology of, 169 economics, 321 belief-based utility in, 325, 342-344 applications of, 339-342 consequences of, 335-339 definition of, 326-327 evolutionary psychology insights into, 326 history of, 327-328 from other people's beliefs, 331-335 sources of, 328-331 definition of beliefs in, 322 historical conceptualization of beliefs in, 324-325

of information, 323-324



economics (cont.)	episodic memory, schematic knowledge effects
modern conceptualization of beliefs in,	on, 115–116
321-324	atypical items and, 123–126
economy, partisan-motivated reasoning in	Bayesian model of, 118–123
evaluation of, 281–282	bias, 113–116, 118–123
education	empirical findings on, 114–121
directionally motivated reasoning correlation	rational analysis of, 116–118, 126–127
with, 283	suppression, 126–127
myside bias and, 466–470	temporal dynamics of, 122–123
EEA. See environment of evolutionary	epistemic authorities, selection of, 580–581
adaptedness	epistemic closure, belief storage and, 68–71
effort-accuracy tradeoff, irrationality of beliefs	epistemic functionality, irrationality contribution
and, 14–16	to, 100–103
ego-utility, 329–330	epistemic injustice, 105
election participation, reflective reasoning effects	epistemic irrationality, 92–97
on, 291	mental health and, 97–100
electorate, democracy requirement for, 298	epistemic rationality, belief norm of, 444–445
electricity, green, 537–538	epistemic tradeoffs, irrationality of beliefs and,
elites	13-14
individual susceptibility to, 303–304	epistemic vigilance, 76
party polarization and, 308–309	epistemological absolutism, 576–578
political belief influence by, 302–303	erotomanic delusions, 441
political information from, 300–302	error. See prediction error
emotion	error management theory, 178
anticipatory, 328–329	in evolutionary origins of caring about others'
cognitive load and, 177–178	beliefs, 334–335
decision-making ability and, 92–97	essentialism, 255
in moral judgments, 175–176	criminality punitiveness link to, 254-269
need for, 283–284	Essentialism of Criminality Scale for
in political belief formation, 280–282,	measurement of, 256–261, 263
286–287	mechanisms underlying, 261-264
in political belief updating, 304–306	retributive punishment preferences and,
empathy	264–266
myside bias and, 470–472	Essentialism of Criminality Scale, 256–261, 263
reflective reasoning and, 282–283, 286–287	Ethics Bowl, 583
employee effort, belief-based utility in, 342	ethnic riots, cultural misbelief role in, 202–203
endowment effect, 330–331	ethnicity
enlarged mentality, 282–283	COVID-19 denial and, 377–380
enthusiasm, in political belief updating, 304–306	political beliefs and, 307–308
environment	religious beliefs and, 247–250
beliefs adapted to, 180–183	EUT. See expected utility theory
in cultural evolutionary psychology, 212–218,	evidence
220–222	actively open-minded thinking in search for,
human rights belief functions in, 525–526	576-578
intelligence effects of, 403–406	belief acquisition and, 66–68
in political belief formation, 286–290	bias against disconfirmatory, 424–425,
environment of evolutionary adaptedness (EEA),	456-458
in standard evolutionary psychology,	delusion resistance to, 444–445
210-211	human search for and reasoning about, 8–12,
environmental psychology, belief-action gap in,	14–16
536-537, 540, 545-547	identity protective cognition in selection of,
information deficits and structural barriers	177–178
contributing to, 539–541	intuitive theory resistance to, 357, 360,
measurement issues contributing to, 537–539	363–364
psychological factors contributing to, 541–544	myside bias effects on, 465–466, 474–476



psychological immune system reaction to,	Facebook
71-73	belief-based utility in consumption of,
scientific, denial versus, 382-386	339-340
evocation, of culture, standard evolutionary	delusion transmission through, 431-433
psychology concept of, 210–211, 219	factual beliefs, 77–78
evolution	religious credences compared with, 238-240
of human caring about others' beliefs,	fairness, pro-environmental behaviors and,
334-335	542-544
of human reasoning, 575–576	fake experts, science denial use of, 382-384
intuitive theories originating from, 355-356	fake news, 79–80
of mental states, 446–448	actively open-minded thinking to correct,
probabilistic inference and, 137	580-581
processes or content selection by, 13–14	belief-based utility in consumption of,
scientific versus intuitive beliefs about, 354,	339–340
361-362	cultural misbeliefs, 193–194
historical precedence of, 362	epistemic vigilance and, 76
maladaptive consequences of, 364–365	political beliefs and, 298, 309–312
resilience of, 365	false belief tasks, theory of mind tests with,
resistance to counterevidence by,	61–63
363–364	false beliefs. See also cultural misbelief; delusions
widespread prevalence of, 363	actively open-minded thinking to correct,
evolutionary perspective	578–581
belief functions under, 10–11	cognitive load and, 66–68, 80
of intuitive beliefs, 172, 174–175, 178–183	human desire to correct others', 333–334
evolutionary psychology	intuitive theories compared with, 356–358
belief-based utility and, 326	linguistic analysis of belief and, 36, 43–44
cultural, 209–219, 222	negative impacts of, 574–576, 586–587
conspiracy theory case study of, 216–217,	about race, 398–399
219–220	hope for future of, 399–411
forces considered in, 212–214, 221–222	intelligence arguments, 403–406
merits of, 220–221	medicine and healthcare arguments, 403,
religious belief system case study of,	
	407–409
214–216, 219–220	physical feature arguments, 399–403
human rights and, 525–526	sports ability arguments, 403,
standard, 209–220	409–411
Expectancy Violation Theory (EVT), political	reasons for arriving at, 13, 21–23
belief formation and, 286–287	computational constraints and,
expectation-maximization algorithm, in Bayesian	14–16
belief updating, 421–424	epistemic tradeoffs and, 13–14
expectations	prior knowledge effects and, 16–21
impossible, science denial use of, 384	Fang people, religious beliefs of, 235–236
innate, intuitive theories from, 355–356	fate, linked, 307–308
expected utility theory (EUT), of decision	fear, in political belief updating, 304–306
making, 321–324	features, as beliefs about categories, 78
experience	feedback, debiasing training using, 559–562
delusions and abnormal, 455–456	Fermat's conjecture, 169–170
intuitive theories originating from,	fight response, in political belief updating,
355-356	305–306
by proxy, intuitive belief formation through,	finance, belief-based utility applications in,
164–168	340-341
explanations, confabulatory, 101–103	FLICC taxonomy, of science denial, 382–386
explicit beliefs, 5–8	flight response, in political belief updating,
	305–306
face masks, scientific evidence versus denial	Flynn effect, 405
about, 384–386	folie a deux, 43 1–433



folk biology, 180	gist memory, item memory and, 123-126
intuitive beliefs about evolution, 354,	global warming. See climate change
361-362	Global Warming Petition Project, 382-384
historical precedence of, 362	gods, 236–238
maladaptive consequences of, 364-365	in doctrinal religious traditions, 245–247
resilience of, 365	in non-doctrinal religious traditions, 241–245
resistance to counterevidence by, 363-364	grandiose delusion, 441
widespread prevalence of, 363	Great Barrington Declaration, 374–375, 382
folk epistemology, pathological beliefs and,	green consumption, 539-544
449–450	green electricity, 537–538
folk physics, 180	group consciousness, 307–308
intuitive beliefs about projectile motion, 358	
historical precedence of, 358–359	group-based identities, political beliefs and,
maladaptive consequences of, 360–361	306–307
	party polarization, 308–310
resilience of, 361	race and ethnicity, 307–308
resistance to counterevidence by, 360	group-centrism, in political beliefs, 306-307,
widespread prevalence of, 359	309–310
folk psychology	groupthink, 338–339
concept of belief in, 63, 421–424	gullibility, scope of human, 76
cognitive scientific reliance on, 60	11.
linguistic analysis of, 33-34, 44, 47-50, 53	habit, pro-environmental behaviors and,
placebo effects and, 60	545-547
representational capacity and, 161–164	hallucinations, 455–456
predictive power of, 57–58	harmful beliefs, population spread of, 221
Spinozan theory in, 60	HBV vaccine. See hepatitis B vaccine
formation, belief. See belief acquisition	healing practices, in non-doctrinal religious
fragile self-esteem, 330	traditions, 241–245
fragmentation, of belief storage, 68-71	health disparities, racial, 407–409
framing effects, media, 302-303	health insurance, belief-based utility and,
freedom, individual, COVID-19 policies in loss	341-342
of, 377-380	healthcare
full beliefs, 78	belief-based utility applications in, 341–342
functionalism. See also psychofunctionalist theory	race-based, 403, 407–409
of belief	hepatitis B (HBV) vaccine, 218
of mental states, 445-448	hermeneutical injustice, 105
theories of belief based on, 56-58, 523-524	heuristics, 11-12. See also bias
functionality, irrationality contribution to,	actively open-minded thinking to correct,
100–103	578-580
fundamental attribution error, 561-562	bounded rationality and, 14–16
future outcomes	decision making with, 557-560
beliefs about, 328–329	in evolutionary origins of caring about others'
pro-environmental behaviors and, 541	beliefs, 334–335
time discounting and, 336–337	failure and, 20
8, 331	human rights beliefs and, 528
games, debiasing training with, 560-565	in intuitive beliefs, 172, 175–178
gender essentialism, 255	linked fate, 307–308
generative model of concepts, 142–146	in moral judgment, 175–176
genetic understanding, pathological beliefs and,	representativeness, 561–562
	hierarchical modeling, in cognitive psychology,
genetics, race and, 399	
•	489
disease, 403, 407–409	hindsight bias, 119–120 historical precedence, of intuitive theories, 356,
intelligence, 403–406	*
physical features, 399–403	358–359, 362
sports ability, 403, 409–411	homophily
ghosts, 236–238, 241–243	social consequences of, 338-339



Index 603

social network analysis of, 432-433 HPV vaccine. See human papillomavirus vaccine human agency confabulation benefits for, 101-103 irrationality and, 92-97 human learning. See learning human papillomavirus (HPV) vaccine, conspiracy theories about, 218 human reasoning. See reasoning human rights, 515 anti-science movement and, 387-388 beliefs and, 515-516, 518-519 problem of, 521-523 transdisciplinary study of, 523-526 cross-cultural cognitive science of, 515-516, 526-530 international culture of, 517-518 international system of, 516-517 universality concept in, 518-519 retrospective versus prospective, 519-521 human thinking. See cognition humanity, morality association with, 268 humankind, evidence-based perception of, 398-411 intelligence, 403-406 medicine and healthcare, 403, 407-409 physical features, 399-403 sports ability, 403, 409-411 humoral theory of disease, 195-196, 198 Huntington disease, medical testing for, 341 hybrid dual-process models, 176-177 iconicity, of metarepresentations, 240-241 ICTY. See International Criminal Tribunal for Yugoslavia ideations, delusions compared with, 451-452 identification, belief, 71-73, 576-578 identity protective cognition (IPC), 177-178 ideologies, political, 298-300, 477-480 illusions, delusions as, 445-446 illusory truth effects, 79-80 imagination delusions as, 445-446 supernatural, 236-238 immune system, psychological, 71-73 social media and, 79-80 immunology, of religious beliefs, 214-215 implicit attitudes, 73-76 implicit beliefs, 3, 5-7 problem of, 35–36 tacit beliefs compared with, 7-8 impossible expectations, science denial use of,

incapacitating punishment, essentialist views of criminality in preference for, 264-266 incarceration attitudes toward people under, 261-264 societal acceptance of people after, 254-256 incentives, debiasing training compared with, 567-568 inconsistent beliefs, fragmentation allowing, 68–7 I independent error, fragmentation allowing, 70 individual differences in actively open-minded thinking, 578-581 in cognitive bias, 466-470 in cultural evolutionary psychology, 212-215, 217, 220-222 in myside bias cognitive ability, 466-470 normative arguments convergence with, thinking disposition, 470-472 in political belief formation, 283-286, 299-300, 303-304 in susceptibility to bias and influence, 303-304 Thurstonian models of, 488-506 best months of year, 505 best NBA players, 498, 504 best U.S. presidents, 496-498 classic model, 492-507 discussion, 505-507 extended model with polarization, 494-507 extended model with subgroups, 494-507 preference and belief ranking, 490-492 "worst U.S. states," 499, 504–505 individual freedom, COVID-19 policies in loss of, 377-380 individual optimality, collective optimality versus, 380-382 inductive biases, 213 inferences belief formation through, 164-168, 431-433 delusions and, 421–424, 455 information, economics of, 323-324 information avoidance, 335, 341-342 information deficit, 539-541 information search and processing in actively open-minded thinking, 576-578 bias in, 335-336 dual-process system for human rights beliefs and, 525-526 intuitive and reflective beliefs under, in judgment and decision making, 557-559 epistemic authority selection and, 580-581 myside bias effects on, 465-466, 474-476



> Index 604

information search and processing (cont.) evolutionary adaptation case of, 354, political, 280-281, 300-304, 309 361-365 psychological immune system effects on, 73 356-358 selective exposure in, 303-304, 309, 576-578 information-retrieval system, human memory as, 116-118, 126-127 355-356 Infowars, 204-205 inhibition, of intuitive beliefs, 175-176 innate expectations, intuitive theories from, 355-356 innate intelligence, race and, 403-406 inoculation theory, 73, 79-80 insanity defense, delusions and, 454 instrumental beliefs, 8, 10-12, 172 instrumental irrationality, 92-97, 99 insurance, belief-based utility and, 341-342 "integrity," of beliefs, 330-331 intelligence myside bias and, 466-470 race and, 403-406 intentional agency, in religious representations, 364-365 origins of, 355-356 237-238 intentions, commitment to, linguistic analysis of belief and, 47-50 International Criminal Tribunal for Yugoslavia (ICTY), 517-518 363-364 international human rights system, 516-518 internet actively open-minded thinking approach to, 340-341 580-581 belief acquisition and, 79-80 belief-based utility in consumption of, irrationality, 92-95 339-340 delusion transmission through, 431-433 interpretationism, theories of belief based on, 56, intertemporal choice, 336-337 intra-personal consistency, value of, 330-331 intuitive beliefs, 153-154, 170 cultural misbeliefs, 193-198 consequences of, 201-205 definition of, 154-155 dual-process framework and, 177-182 in modern world, 172-180, 183-184 beneficial effects of, 180-182 incorrect conclusions from, 177-178 primary and secondary beliefs in reasoning and learning, 180-183 psychological underpinnings of, 177-182 reflective belief distinction from, 76 reflective beliefs at same time with, 168-170 jealousy, delusional, 441 religious beliefs compared with, 239-241 representational capacity and, 161-164 scientific belief interference by, 353-366, 368

hallmarks of intuitive theories and, origins of intuitive theories and, pedagogical implications of, 367 projectile motion case of, 358-361 social implications of, 367-368 theoretical implications of, 366-367 intuitive concepts, 164-168 cultural misbeliefs and, 195 intuitive theories, 354-355 hallmarks of, 356-358 historical precedence of, 356, 358-359, 362 importance of, 365-366 pedagogical implications, 367 social implications, 367-368 theoretical implications, 366-367 maladaptive consequences of, 357, 360-361, prevalence of, 357, 359, 363 resilience of, 357-358, 361, 365 resistance to counterevidence by, 357, 360, scientific theories versus, 354-355, 357-358 investors, belief-based utility in behavior of, IPC. See identity protective cognition Irish Citizens' Assembly, 290-291 belief updating and, 8-10 of belief-action gap, 536, 545-547 challenge versus tolerance of, 106-107 context role in, 103-106 delusions and, 446-449 epistemic or instrumental, 92-97 human agency and, 92-97 mental health and, 97-100 of myside bias, 474-476 optimism and, 100-103 psychological benefits of, 100-103 reasons for apparent, 13, 21-23 computational constraints and, 14-16 epistemic tradeoffs and, 13-14 prior knowledge effects and, 16-21 of science denial, 377-380 widespread nature of, 97-100 item memory, gist memory and, 123-126



More Information

Cambridge University Press & Assessment 978-1-316-51864-9 — The Cognitive Science of Belief: A Multidisciplinary Approach Edited by Julien Musolino , Joseph Sommer , Pernille Hemmer Index

Index 605

debiasing training for, 557-568 barriers to effectiveness of, 566 durable effects of, 562-563 generalizability of, 563-566 length and extensiveness of, 560-562 heuristics and biases in, 557-560 of rationality, 97 jumping to conclusions (JTC) bias, 424-425, 456-458 Kennedy, John F. (JFK), assassination of, 72-73, ketamine, associations reactivated by, 425 knowledge. See also prior knowledge; schematic knowledge directionally motivated reasoning correlation intuitive and reflective beliefs as form of, 173 primary compared with secondary, 180-183 scientific, acquisition of, 366-367 storage of, 5-7, 173 knowledge projection, 474-476 knowledge-action gap, in environmental psychology, 536-537, 540, 545-547 information deficits and structural barriers contributing to, 539-541 measurement issues contributing to, 537-539 psychological factors contributing to, 541-544 labor economics, belief-based utility applications language competence, capacity for belief and, 63-64 language of thought (LoT), 73-76, 145-146, 161-164 latent-mixture modeling, in cognitive psychology, 489 Latinos, political beliefs of, 307-308 learning delusions and, 421-426, 428-429 models of, 73-76 media primary and secondary beliefs in, 180-183 legal system, punitiveness link to essentialist views in, 254–269 Essentialism of Criminality Scale for measurement of, 256-261, 263 mechanisms underlying, 261-264 retributive punishment preferences and, 264-266 lexicon, mental, 161-164 liberalism, political ideology of, 299, 477-480 in Bayesian belief updating, 8-10, 421-424 of structured hypotheses, 143-144

belief as result nominal of verb believe, 34-35 believe as verb of propositional attitude, 35-36 alternatives to commitment, 44-47 commitment to actions, 47-50 commitment to norms, 50-53 Frege's puzzle and, 37-39, 41-44 grammatical parallel with depictions, 38-44 Quine's puzzle and, 37-39, 41-44 Russell's puzzle and, 37–39, 41–44 transparency principle in, 37-39, 42-44 cognitive science and, 33-34 linguistic representations, human representation of, 156 linked fate, 307-308 lived experiences, COVID-19 denial and, 377-380 lockdowns, COVID-19, 377-380 logical fallacies, science denial use of, 384 logical intuition, 176-177 logic-based inoculation, against misinformation, 386 long-term memory, 173 LoT. See language of thought maladaptive consequences, of intuitive theories, 357, 360-361, 364-365 managerial decisions, belief-based utility in, 342 manic episodes, delusions in, 441-443 marginalization, conspiracy theory beliefs and, 217-218 marriage practices, environmental resource scarcity and, 213-214 massive modularity, standard evolutionary psychology assumption of, 210 material outcomes, beliefs compared with, 324-325 mathematical theorems, reflective beliefs in, belief-based utility in consumption of, political information from, 300-304 medical testing, belief-based utility and, 341-342 medical theories, cultural misbeliefs about, 195-196, 198-200, 202 medicine, race-based, 403, 407-409 memetics theory, myside bias insights from, 477-480 memory, 173 adaptive, 181 long-term, 173 working, 173, 182-183

linguistic analysis of belief, 33, 53



606 Index

memory retrieval, schematic knowledge effects political beliefs and, 307-308 on, 115-116 misbeliefs, cultural. See cultural misbelief atypical items and, 123-126 misfortune, in non-doctrinal religious traditions, Bayesian model of, 118-123 244-245 bias, 113-116, 118-123 misinformation, 79-80 empirical findings on, 114-121 actively open-minded thinking to correct, rational analysis of, 116-118, 126-127 580-581 suppression, 126-127 belief-based utility in consumption of, temporal dynamics of, 122-123 in COVID-19 pandemic, 353-364, 374 mental disorders belief updating in people with, 424-426 civil liberty loss and, 377-380 delusions as symptoms of, 440-458 collective versus individual optimality and, grounds for pathologization, 449-451 380-382 implications of pathologization, 452-454 conclusions and outlook from, 387-389 pathological beliefs compared with, legitimate critical arguments versus, 451-452 384-389 themes and associated disorders, 441-443 lived experiences and, 377-380 delusions in, 421-426, 454-455 political motivations in, 374-377, 387-389 abnormal experience theory of, 455-456 recommendations for scientists and policy abnormal inference theory of, 455 makers to address, 386-387 longer term effects of, 428-431 science versus, 382-389 normal cognitive functioning importance cultural misbeliefs, 193-194 in, 458 logic-based inoculation and debunking of, 386 2-factor theory of, 427-431, 456-458 political beliefs and, 298, 309-312 social network transmission of, 432-433 variations in, 458-459 varieties of, 441-443 modern environment, adaptive mismatch to, irrationality and, 97-100 179-180 othering of patients with, 99 modules. See cognitive modules rights of patients with, 99 monothematic delusions, 441-443 mood disorders, delusions in, 441-443, 458-459 mental health COVID-19 restriction impacts on, 377-380 mood-incongruent delusions, 441 irrationality and, 97-100 moral intuition, human rights beliefs and, mental representations 526-528 beliefs as relations to, 68-71, 73-76 moral judgment, intuitive belief influence on, 175-176 human representation of, 156 mental states, delusions as moral psychology, 254-256 anti-doxastic view of, 443-446 morality belief norms of rationality and, 444-445 in doctrinal religious traditions, 245-247 doxastic view of, 443-444, 446-448 humanity association with, 268 mentalese. See language of thought of prejudice and discrimination, 254-256 mentalizing. See theory of mind motion, theories of. See projectile motion motivated reasoning metacognitive effects, on belief, 78 metarepresentation. See also reflective beliefs in COVID-19 denial, 377-380 beliefs from, 157-158 in economics perspective of beliefs, 328 human ability of, 156 political beliefs and iconicity of, 240-241 accuracy and reflection, 280, 282-283, religious beliefs as, 239-241 300-302 millennial cults, 77-78, 425 directional, 279-282, 300-302 individual differences in, 283-286 mind perception, 63 mind reading. See theory of mind situational factors in, 286-290 minority groups motivation, intuitive beliefs and, 177-178, conspiracy theory beliefs and, 182-183 motivation crowding, 387 in essentialism and punitiveness within legal myside bias, 465-466, 582 domain generality of, 472-474 system, 269



individual differences in	one-shot interventions, debiasing training with,
cognitive ability, 466–470	560–562
normative arguments convergence with,	online processing models, of political belief
476–477	formation, 299–300
thinking disposition, 470–472	open-minded thinking. See actively open-minded
irrationality of, 474–476	thinking
memetics theory applied to, 477–480	openness, in actively open-minded thinking,
normative appropriateness of, 474–476	576–578
as psychological trait, 472–474	opinion content, myside bias and, 477–480
	opinions
naturally-occurring data, in Thurstonian models	formation of
of individual differences, 492, 505-507	directional, 279–282, 300–302
need for affect (NFA), 283-284	group-centrism in, 306-307
need for closure, 576–578	individual differences in, 283-286,
need for cognition (NFC)	299–300, 303–304
in directionally motivated versus reflective	political, 299–306
reasoning, 283-284	RAS model of, 299–300
myside bias and, 470–472	reflective, 279–280, 282–283, 300–302
negative utility	situational factors in, 286–290
from beliefs, other people's beliefs and,	Thurstonian models of individual differences
331–335	in, 488–506
of beliefs, 324–325, 327–328	best months of year, 505
applications of, 339–342	best NBA players, 498, 504
attention and, 343	best U.S. presidents, 496–498
consequences of, 335–339	classic model, 492–507
sources of, 328–331	discussion, 505–507
neoclassical economics, conceptualization of	extended model with polarization, 494–507
beliefs in, 321–325	extended model with subgroups,
news. See fake news	494–507
NFA. See need for affect	preference and belief ranking, 490–492
NFC. See need for cognition	worst U.S. states, 499, 504–505
nicotine, belief modulation of effects of, 59	opioids, belief modulation of effects of, 59–60
9/11 Truthers, 204–205	opportunity cost neglect, 560–561, 563–564
nocebo effects, 58–60	optimism
non-doctrinal religions, 241–245	belief-based utility and, 338
non-realist views of belief, 68	irrationality and, 100–103
norm psychology, social learning and, 213	ordeal, religious, 199
normative attitudes, religious credences and,	ordinary science intelligence (OSI), 575–576
238–240	Oregon Petition, 382–384
norms	organic mental disorders, delusions in, 441–443,
commitment to, linguistic analysis of belief	450, 458–459
and, 50–53	organizational behavior, belief-based utility
epistemic irrationality and, 92–93	applications in, 342
instrumental irrationality and, 92–93	OSI. See ordinary science intelligence
in models of belief acquisition, 66–68	ostrich effect, in investor behavior, 340–341
of rationality in beliefs, 444–445	Othello syndrome, 441
social, pro-environmental behaviors and,	other people's beliefs
542-544	direct concerns about, 333-334
nudges, debiasing training compared with,	in economic models, 332–333
567–568	evolutionary origins of caring about, 334-335
number game, probabilistic inferences in, 140–142	othering, of mental health patients, 99
	overconfidence, 338
observational adequacy, delusion formation and,	overlapping consensus, 519-521, 525
456–458	overlearned beliefs, 7-8
one-drop rule, for racial definition, 401	overoptimism, 338



608 Index

pain belief as kind of propositional attitude, 3-4, belief role in, 58-60 56-58, 421-424, 523 from beliefs, 324–325, 327–328 applications of, 339–342 physical features, race identification by, 399-403 physical violence, delusions causing, 454 attention and, 343 Pizzagate conspiracy theory, 197–198 placebo effects, belief in, 58-60 consequences of, 335-339 other people's beliefs and, 331-335 pleasure, from beliefs, 324-325, 327-328 sources of, 328-331 applications of, 339-342 healthcare disparities in management of, attention and, 343 407-409 consequences of, 335-339 pandemic. See COVID-19 other people's beliefs and, 331-335 parallel dual-process models, 175 sources of, 328-331 paranoia, belief updating in people with, PLoT. See probabilistic language of thought 424-426 pluralistic ignorance, 338-339 partial beliefs, 78 polarization belief-based utility and, 338-340 partisan-motivated reasoning, in political belief formation, 280-283, 300-302 cognitive ability and, 466-470 individual factors in, 283-286 political, 298, 308-310 situational factors in, 286-290 myside bias in, 465-472 party polarization Thurstonian models with, 494-507 myside bias in, 465-472 policy opinion, group-centrism in, 306-307 political beliefs and, 298, 308-310 political beliefs pathogenic factor, 441-443 consequences of incoherent, 298-299, pathological beliefs, 440 310-312 formation of, 279-280, 299-300 delusions compared with, 451-452 grounds for judging, 449 accuracy motivation and reflection in, 280, bizarreness of content, 450 282-283, 300-302 comorbid psycho-physiological disturbances directional motivated reasoning in, and decreased functioning, 450 280-282, 300-302 medical treatment responsiveness, 451 future research directions in, 290-291 organic disease precedence, 450 individual differences in, 283-286, uniqueness, 449-450 299-300, 303-304 un-understandability, 449 models of, 299-300 pathoplastic factor, 441-443 situational factors in, 286-290 pay-off bias, 212 group-based influences on, 306-307 PE. See prediction error party polarization, 308-310 race and ethnicity, 307-308 penetrability, modularity versus, 428 perceived effort, pro-environmental behaviors myside bias in, 465-472 religious belief similarities with, 238-240 and, 541 perception systems and ideologies of, 298-300, 477-480 belief formation through, 164-168 updating of, 300-302 elite influence role in, 302-303 of control, in essentialism effects on punitiveness, 267-268 emotion role in, 304-306 delusion as dysfunction in, 427-430, 445-446 individual susceptibility to bias and persecutory delusion, 441 influence in, 303-304 perseverance, belief, 8-10 political heuristics, human rights beliefs and, 528 personality political orientation. See also partisan-motivated delusions and, 453 reasoning; party polarization development of, 313, 477-480 myside bias and, 470-472, 477-480 personality disorders, irrationality and, 97 political rumors, 202 politics perspective, willingness to switch, 576-578 belief-based utility applications in, 339-340 perspective taking, political belief formation and, 284-285 climate change denial and, 374-377, 387-389 persuasion, reasoning use in, 575-576, 582 COVID-19 misinformation connection to, philosophical models of belief, 3-4, 56-58 374-377, 387-389



More Information

Cambridge University Press & Assessment 978-1-316-51864-9 — The Cognitive Science of Belief: A Multidisciplinary Approach Edited by Julien Musolino , Joseph Sommer , Pernille Hemmer Index

Index 609

polythematic delusions, 441-443 populations. See also cultural evolutionary psychology of belief belief processes in, 220–221 definition of human, 399 portfolio choice, belief-based utility in, 340-341 position papers, dialogue replacement of, 584-585 positive illusions, irrationality and, 100-103 positive utility from beliefs, other people's beliefs and, 331-335 of beliefs, 324-325, 327-328 applications of, 339-342 attention and, 343 consequences of, 335-339 sources of, 328-331 possessions, beliefs as, 327-328, 330-331 possibilities, actively open-minded thinking in search for, 576-578 posterior probability, in Bayesian belief updating, 8-10, 421-424 post-truth society, 339-340, 465-466. See also misinformation precautions, in non-doctrinal religious traditions, 244-245 prediction, of behavior, belief use in, 57-58 prediction error (PE), delusions from aberrant, 421-426 longer term effects of, 428-431 2-factor theory compared with, 428-430 predictive coding theory, 421-424 predispositions, political belief formation and, 299–300 preferences, Thurstonian models of individual differences in, 488-507 prefrontal cortex, damage to, 427-428 prejudice, against formerly incarcerated people, 254-256 prejudiced beliefs, epistemic irrationality in, 94 premises, storage of, 5-7 preparation-deliberation tradeoff, 5-7 primary beliefs. See also intuitive beliefs in human reasoning and learning, 180-183 primitive religion, 241-243 prior attitude effect, in political belief formation, 280-281, 300-302 prior individual conditions, in cultural evolutionary psychology, 212-215, 217, 220-222 prior knowledge. See also schematic knowledge belief generation from, 7-8 irrationality of beliefs and, 16-21 prior probability in Bayesian belief updating, 8-10, 421-424

in myside bias, 474–480 of structured hypotheses, 142-144 PRLT. See probabilistic reversal learning tasks probabilistic language of thought (PLoT), 73-76 probabilistic models of belief. See also Bayesian probability complexity of human cognition and, 135-146 probabilistic reasoning actively open-minded thinking through, 585-586 interventions to improve, 559-561, 563-564 probabilistic reversal learning tasks (PRLT), delusion effects on, 426 probability assessments, in economics perspective on beliefs, 321-324 probability theory, mathematical axioms of, 135-136 problem of implicit belief, 35-36 procedural rationality, belief norm of, 444-445 processes, evolutionary selection for content or, 13-14 pro-environmental behavior, belief-action gap in, 536-537, 545-547 information deficits and structural barriers contributing to, 539-541 measurement issues contributing to, 537-539 psychological factors contributing to, 541-544 projectile motion, intuitive versus scientific beliefs about, 358 historical precedence of, 358-359 maladaptive consequences of, 360-361 resilience of, 361 resistance to counterevidence by, 360 widespread prevalence of, 359 propaganda, 79-80 epistemic vigilance and, 76 propositional attitude belief as kind of, 3-4, 56-58, 421-424, 523 implicit attitudes as, 73-76 linguistic analysis of, 35-36 alternatives to commitment, 44-47 commitment to actions, 47-50 commitment to norms, 50-53 Frege's puzzle and, 37-39, 41-44 grammatical parallel with depictions, 38-44 Quine's puzzle and, 37-39, 41-44 Russell's puzzle and, 37-39, 41-44 transparency principle in, 37-39, 42-44 Prospect Theory, 322 prospective universality, 519-521 prototype theory, 78 psychiatric disorders belief updating in people with, 424-426 delusions as symptoms of, 440-458 grounds for pathologization, 449-451



psychiatric disorders (cont.)	Essentialism of Criminality Scale for
implications of pathologization, 452–454	measurement of, 256–261, 263
pathological beliefs compared with,	mechanisms underlying, 261–264
451-452	retributive punishment preferences and,
themes and associated disorders, 441-443	264–266
delusions in, 421–426, 454–455	
abnormal experience theory of, 455-456	QAnon conspiracy, 311
abnormal inference theory of, 455	quack remedies, 195–196, 198
longer term effects of, 428-431	quotation marks, in language of thought,
normal cognitive functioning importance	161–164
in, 458	101 104
2-factor theory of, 427-431, 456-458	race
•	COVID-19 denial and, 377–380
variations in, 458–459	
varieties of, 441–443	in essentialism and punitiveness within legal
irrationality and, 97–100	system, 269
othering of patients with, 99	false beliefs about, 398–399
rights of patients with, 99	hope for future of, 399–411
psychiatry, delusions as symptoms of mental	intelligence, 403–406
disorders in, 440-458	medicine and healthcare, 403, 407-409
grounds for pathologization, 449–451	physical features, 399–403
implications of pathologization, 452–454	sports ability, 403, 409–411
pathological beliefs compared with delusions,	political beliefs and, 307–308
451-452	racial diseases, 403, 407-409
psychofunctionalist theory of belief, 55-80	racial essentialism, 255
acquisition processes, 66-68, 79-80	racial health disparities, 407-409
change processes, 71–73	racism, 398-399
future directions for, 76–80	epistemic irrationality in, 94–95
storage processes, 68–71	healthcare disparities and, 407-409
structure of thought, 73–76	scientific understanding in hope for end of,
psychological essentialism. See essentialism	399–411
psychological immune system, 71–73	rank data, in Thurstonian models of individual
social media and, 79–80	differences, 490–492, 505–507
psychometrics, 488–489	RAS model. See Receive-Accept-Sample model
psychophysical laws, 488	rational analysis, of memory retrieval, 116–118,
psychotic features, 441	126–127
public health policy	rationality. See also irrationality
COVID-19	belief norms of, 444–445
civil liberties lost to, 377–380	bounded, 14–16
political stance connection with opposition	judgment of, 97
to, 374–377	reasons for apparent deviations from, 13,
recommendations for future, 386–387	21-23
scientific evidence for, 384–386	computational constraints and, 14–16
social dilemma of, 380–382	epistemic tradeoffs and, 13–14
lived experiences in evaluation of, 377–380	prior knowledge effects and, 16–21
public policy	standard of, 21–23
climate denial and, 376	realism, depressive, 97-98
group-centrism in, 306-307	reality, domain of, religious beliefs and, 236-237
intuitive theories and, 368	reasoning. See also motivated reasoning
pro-environmental, 542-547	actively open-minded thinking in, 574–590
public representations, human representation of,	accessibility of, 581-582
156	belief improvement through, 575–576
punishment, essentialist views of criminality in	definition of, 576–578
preferences for, 264–266	efficacy of, 578–580
punitiveness, essentialist views of criminality link	epistemic authority selection using,
to, 254–269	580–581
20, 214 207	,00 ,01



Index 611

strategies to increase, supernatural imagination in, 236-238 583-586 as unexceptional domain, 235-236, 238-240 unified theory of religion and, 235-236 as tool for understanding rather than Remifentanil, belief modulation of effects of, persuasion, 582 dual-process framework of, 177-182 59-60 representational capacity, 161-164 evolution of, 575-576 formalization of, 136 representational redundancy, in belief storage, moral, 175-176 68-71 primary and secondary beliefs in, 180-183 representations for understanding rather than persuasion, 582 human beliefs about, 157-158 Receive-Accept-Sample (RAS) model, of political human representation of, 156 belief formation, 299-300 religious, 236-238 reconstructive memory, Bayesian model of, representativeness heuristic, overreliance on, 118-123 561-562 reference, delusion of, 441 resource scarcity, culturally mandated beliefs and, reflection, 282-283. See also reflective reasoning 213-214 reflective attitudes, 156-157, 160 response biases, in placebo effects, 59 dual-process framework and, 177-182 retributive punishment, essentialist views of skeptical, 194 criminality in preference for, 264-266 reflective beliefs, 153-154, 170 retrieval. See memory retrieval cultural misbeliefs, 193–198 retrospective universality, 519-521 consequences of, 201-205 reversal learning tasks, delusion effects on, 426 definition of, 157-158 reward prediction error learning, belief in, 58-60 disquotational incontinence and, 158-160 rights, of mental health patients, 99 intuitive belief at same time with, 168-170 riots intuitive belief distinction from, 76 cultural misbelief role in, 202-203 in modern world, 172-180, 183-184 political beliefs and, 298-299, 305, 311, incorrect conclusions from, 177-178 575-576 primary and secondary beliefs in reasoning risk aversion, in political belief updating, and learning, 180-183 305-306 psychological underpinnings of, 177-182 risk preferences, belief-based utility and, 337 religious beliefs as, 239-241 rituals, 199 reflective concepts, 164-168 in doctrinal religious traditions, 245-247 cultural misbeliefs and, 195 rumors, consequences of intuitive versus reflective beliefs in, 201-203 reflective reasoning, 279-280 individual differences leading to, 283-286 schema theory, 525 in political belief formation, 280, 282-283, 300-302 schematic knowledge, episodic memory retrieval situational factors leading to, 286-290 effects of, 115-116 reinstatement effects, of contexts on behaviors, atypical items and, 123–126 70-71 Bayesian model of, 118-123 rejection, belief, 66-68, 80 bias, 113-116, 118-123 reliability, of cues for belief updating, 421-424 empirical findings on, 114–121 religious beliefs, 77, 235, 251 rational analysis of, 116-118, 126-127 suppression, 126–127 cognitive processes of, 235-241 cognitive status of, 238-241 temporal dynamics of, 122-123 schizophrenia cultural evolutionary psychology case study of, 214-216, 219-220 belief updating in people with, 424-426 definition of, 236 delusions in, 421–425, 429–430, 441–445, doctrinal traditions, 245-247 458 factual beliefs compared with, 238-240 abnormal experience theory of, non-doctrinal traditions, 241-245 455-456 as reflective beliefs, 239-241 abnormal inference theory of, 455 scientific beliefs versus, 353-354 grounds for pathologization of, 449-450 signals in statements of, 247-250 2-factor theory of, 456-458



schizophrenia (cont.)	SEU. See Subjective Expected Utility
variations in, 458–459	sexist beliefs, epistemic irrationality in, 94
irrationality and, 97–98	sexually transmitted disease, medical testing for
science curiosity, political belief formation and,	sexually transmitted disease, medical testing for
279–280, 284	shamanism, 241–245
science denial. See also climate denial	
	sickle cell disease, 407–409
in COVID-19 pandemic, 353–364, 377–380,	signals
382–389	actions functioning as, 329–330
irrationality of, 377–380	pro-environmental behaviors as, 542–544
legitimate critical arguments versus, 384–389	statements of religious beliefs as, 247–250
prevalence of, 353	situational factors, in political belief formation,
recommendations for addressing, 386–387	286–290
science education, intuitive theory implications	size principle likelihood, 143–144
for, 367	skepticism. See also science denial
science illiteracy, in COVID-19 pandemic,	legitimate, 384–389
353-364	sleeper effect, 79–80
scientific beliefs	sliding scale theory of belief, 445–446
intuitive belief interference with, 353–366,	social beliefs, 172
368	social cognition
evolutionary adaptation case of, 354,	pro-environmental behaviors and, 542–547
361–365	theory of mind in, 63
hallmarks of intuitive theories and,	social cohesion, worthiness of, 575–576
356–358	social consequences
origins of intuitive theories and, 355-356	of belief-based utility, 338-339
pedagogical implications of, 367	of intuitive theories, 367-368
projectile motion case of, 358-361	social context, irrationality and, 103-106
social implications of, 367-368	social desirability bias, pro-environmental
theoretical implications of, 366-367	behaviors and, 538
as reflective beliefs, 164	social dilemma, COVID-19 pandemic and
religious beliefs versus, 353–354	climate change as, 380-382
scientific consensus, epistemic authority of,	social dynamics, in cultural evolutionary
580–581	psychology of belief, 212–213, 215,
scientific evidence, denial versus, 382-386	217–218, 220–222
scientific reasoning	social identity
improvement of, 575–576	in political belief formation, 280–282
racism end through, 399–411	in political beliefs, 309–310
scientific theories	social learning
acquisition of, 366–367	of convictions, 477–480
intuitive theories versus, 354–355, 357–358	in standard evolutionary psychology, 210–21
scientific investigation before development of, 4	social media
secondary attitudes, 77	actively open-minded thinking approach to,
secondary beliefs, in human reasoning and	580–581
learning, 180–183	belief acquisition and, 79–80
segregation, ideological, 338–339	belief-based utility in consumption of,
selective exposure, in information gathering,	339–340
303–304, 309, 576–578	delusion transmission through, 43 1–433
self-deception, 335–336	social networks
self-esteem, 329–330	delusions and, 431–433
self-identification. See also identity protective	political information from, 300–302
cognition	social projection, 561–562
with beliefs, 71–73, 576–578	social psychology, implicit attitudes,
self-image, confabulation benefits for, 101–103	73–76
self-signaling, 330	social restrictions, COVID-19, 377–380
sensitivity-insensitivity dilemma, 456-458	social signals, statements of religious beliefs as,
serial dual-process models, 175	247-250



More Information

Cambridge University Press & Assessment 978-1-316-51864-9 — The Cognitive Science of Belief: A Multidisciplinary Approach Edited by Julien Musolino , Joseph Sommer , Pernille Hemmer Index

Index 613

social transmission, of cultural misbeliefs, superhuman agents 193-194 in doctrinal religious traditions, 245-247 socioecology, in cultural evolutionary in non-doctrinal religious traditions, 241-245 psychology, 212-218, 220-222 supernatural beliefs, 77 socioeconomic status supernatural imagination, 236-238 conspiracy theory beliefs and, 217-218 surveillance system, political belief updating and, COVID-19 restriction impacts and, 377-380 304-306 pro-environmental behaviors and, 539-544 sustainability, pro-environmental behaviors sociometer theory, 329 promoting, 542-544 somatic delusion, delusion of, 441 system 1 processing, 173-175, 557-559 Somatic Marker Hypothesis, 95-96 system 2 processing, 173-175, 557-559 sorting effects, in party polarization, 308-310 tableside racism, 94 souls, 236-238 in doctrinal religious traditions, 245–247 tacit beliefs, 7-8, 77 in non-doctrinal religious traditions, 241-245 Tay-Sachs disease, 407-409 teleo-functionalism, of mental states, 446-448 specialists, religious in doctrinal religious traditions, 245-247 theft, delusion of, 441 in non-doctrinal religious traditions, 241–245 theory of mind (ToM) speech acts, delusions and, 453-454 belief in, 61-63, 521-524 Spinozan belief fixation, 66-68, 71 conspiracy theory beliefs and, 216-217 Spinozan theory, 60 in economics perspective of beliefs, 331-332 spirits, 236-238, 241-245 human rights and, 524 linguistic analysis of belief and, 33-34, 44, spontaneous exegesis, religious credences and, 238-240 47-50, 53 spontaneous inference, intuitive belief formation religious beliefs and, 214 through, 164-168 thinking. See cognition thinking dispositions, myside bias and, 470-472 thought, language of. *See* language of thought spontaneous recovery, fragmentation allowing, 70-71 sports ability, race and, 403, 409-411 thought, structure of, 73-76 thought broadcasting, 441 standard evolutionary psychology, 209-219 environment of evolutionary adaptedness, thought insertion, 441 threat-detection systems, religious beliefs and, 210-211 evocation, 210-211, 219 244-245 threats, in non-doctrinal religious traditions, limitations of, 219-220 massive modularity, 210 244-245 social learning in, 210-211 Thurstonian models, of individual differences, standardized intelligence tests, 403-406 488-506 standing beliefs, 7 best months of year, 505 statements of belief, as signals, 247-250 best NBA players, 498, 504 statistics training, 559-561, 563-564 best U.S. presidents, 496–498 stimuli, reliability and uncertainty of, 421-424 classic model, 492-507 discussion, 505–507 storage belief, 5-7, 68-71, 79-80 extended model with polarization, 494-507 extended model with subgroups, 494-507 knowledge, 5–7, 173 strategic interactions, other people's beliefs in, preference and belief ranking, 490-492 332-333 worst U.S. states, 499, 504-505 stroke, delusions after, 450 time discounting, 336-337 tokenistic green actions, 542-544 structural barriers, in belief-action gap, 539-541 ToM. See theory of mind structures tragedy of the commons, COVID-19 pandemic belief formations about, 138-140 and climate change as, 380-382 probability models over, 135-146 Subjective Expected Utility (SEU), decision training. See debiasing training making based on, 321-324 transmission bias, 213 transmitted culture, standard evolutionary subset problem, 143-144 sunk cost fallacy, 560-561, 563-564 psychology concept of, 210-211



614 Index

transparency principle, in linguistic analysis of belief-based utility and, 341-342 belief, 37-39, 42-44 beliefs against, 198-200, 202, 341-342 tribal religion, 241-243 conspiracy theories about, 218 vaccine hesitancy, COVID-19, 376-377, 379 true-self beliefs, in essentialism effects on punitiveness, 268 validating context, of reflective beliefs, 157-160 Trump, Donald value-action gap, in environmental psychology, in January 6, 2021 riots, 311 536-537, 545-547 misinformation from, 310-312, 374 information deficits and structural barriers motivated beliefs in election of, contributing to, 539-541 339-340 measurement issues contributing to, 537-539 truth psychological factors contributing to, 541-544 belief functions other than, 10-12 VDPA. See Vienna Declaration and Program of difficulty of arriving at, 13, 21-23 Action computational constraints and, ventromedial prefrontal cortex, damage to, 14-16 427-428 epistemic tradeoffs and, 13-14 videos, debiasing training with, 560-563 prior knowledge effects and, 16-21 Vienna Declaration and Program of Action evolutionary benefits of, 10-11 (VDPA), 516-517 truth-making institutions, 199 voter turnout, 291 Twitter, actively open-minded thinking approach to, 580-581 Wakefield study, 198-199 2-factor theory, of delusions, 427-431, 456-458 Wason selection task, 178-179 type 1 processing, 173-175, 557-559 web of belief, 68-71 type 2 processing, 173-175, 557-559 whistleblowers, 204-205 White people UMG. See universal moral grammar "diseases" of, 403, 407-409 U.N. See United Nations intelligence of, 403-406 uncertainty rules of inclusion and exclusion as, 401 of cues for belief updating, 421-424 sports abilities of, 403, 409-411 wisdom of the crowds within effect, 70 decision making under, 337 recognition of, 585-586 witchcraft, 235-236, 241-245 word, study of belief as, 33, 53 understandability, of pathological delusions, 449 understanding, reasoning use in, 575-576, 582 alternatives to commitment, 44-47 unified theory of religion, 235-236 belief as result nominal of verb believe, uniqueness, of pathological beliefs, 449-450 34-35 United Nations (U.N.), human rights support believe as verb of propositional attitude, 35-36 by, 516-517 cognitive science and, 33-34 United States. See American politics commitment to actions, 47-50 universal moral grammar (UMG), 526-528 commitment to norms, 50-53 universality, of human rights, 515, 518-521 Frege's puzzle and, 37-39, 41-44 updating. See belief updating grammatical parallel with depictions, 38-44 utility, of beliefs. See belief-based utility Quine's puzzle and, 37-39, 41-44 utility maximization, decision making based on, Russell's puzzle and, 37-39, 41-44 transparency principle in, 37-39, 42-44 working memory, 173, 182-183 vaccination world religions, 241