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D

1

2 **Double Empathy**3 Damian Elgin Maclean Milton¹, Brett Heasman²
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[AU1]

12 **Definition**

13 The double empathy problem (DEP) refers to a
14 “disjuncture in reciprocity between two differ-
15 ently disposed social actors” who hold different
16 norms and expectations of each other, such as is
17 common in autistic to non-autistic social interac-
18 tions (Milton 2012: 884). With different disposi-
19 tional outlooks and personal conceptual
20 understandings, interactions involving autistic
21 and non-autistic people are susceptible to frequent
22 misunderstandings. It is a “double problem” as
23 both people experience it, and so it is not a singu-
24 lar problem located in any one person. However
25 “the disjuncture may be more severe for the non-
26 autistic disposition as it is experienced as unusual,
27 while for the ‘autistic person’ it is a common
28 experience.” (Milton 2012: 885).

29 In principal, the DEP becomes more marked
30 the wider the disjuncture in dispositional

perceptions of what constitutes the social context. 31
It is suggested that “social subtext is never fully 32
given as a set of *a priori* circumstances, but is 33
actively constructed by social agents.” (Milton 34
2012: 884). Thus as interactions unfold, an initial 35
gap in mutual understanding due to a dispositional 36
difference can readily become a critical gap in 37
mutual understanding which potentially termi- 38
nates the interaction. 39

The explanatory scope of the double empathy 40
problem is broad because it considers both individ- 41
ual outlooks of multiple social actors and the social 42
context in which interactions takes place, such as 43
cultural norms and stereotypes. Features of the dou- 44
ble empathy problem that are characteristic of mis- 45
understandings for non-autistic social actors include 46
difficulties in reading autistic facial expressions and 47
interpreting autistic perspectives, overgeneralizing 48
attribution of blame, reduced tendency to critically 49
reflect on one’s own role in contributing to misun- 50
derstandings, and underestimating autistic social 51
ability because it may manifest unpredictably. Fea- 52
tures of the double empathy problem experienced 53
by autistic social actors include increased anxiety 54
about interactional outcomes, increased frustration, 55
and lower self-esteem, which in turn can have a 56
potentially cascading effect on future mental health, 57
economic prospects, and accessing supports and 58
services. 59

The difficulty autistic people have in under- 60
standing non-autistic people has been extensively 61
researched, although arguably not adequately 62
from an autistic point of view (Milton and Bracher 63

64 2013). We therefore focus on research which
 65 highlights the relatively ignored difficulties that
 66 non-autistic people have in understanding autistic
 67 perspectives.

68 **Historical Background**

69 The DEP theory originated from autistic scholar
 70 Damian Milton through discussions when advis-
 71 ing parents in the late 2000s. Prior to diagnosis of
 72 his son and himself as autistic, Milton had referred
 73 to the DEP concept as “conditioned relativism”
 74 and “dispositional diversity” in the 1990s (Milton
 75 2014a). Upon learning of his diagnosis, Milton
 76 began to explore autism theory including Theory
 77 of Mind. The DEP was Milton’s reinterpretation
 78 of ToM which re-situated perspective-taking and
 79 empathy as a two-way interactional process. It
 80 first appeared as a concept in conference presen-
 81 tations from 2010 and was first published in 2012
 82 (Milton 2012). The theory was soon developed
 83 further looking at the concept of “interactional
 84 expertise” (Collins and Evans 2007; Milton
 85 2014b) using Iris Marion-Young’s concept of
 86 “Asymmetrical Symmetry” (Milton 2016a).

87 The DEP has a number of theoretical anteced-
 88 ents reaching back to George Herbert Mead and
 89 his conceptualization of a “social act” (Mead
 90 1934). For Mead social interaction did not com-
 91 prise of functionally separate stimulus and
 92 response elements, because the categorization of
 93 such elements depends on one’s position within
 94 the social field. Instead a reciprocal relationship
 95 exists between stimulus and response whereby the
 96 response of one person is simultaneously the stim-
 97 ulus for another person. In this manner, people
 98 co-regulate each other’s behavior through interac-
 99 tion. A two-way understanding of human social
 100 relations wherein people have the power to mutu-
 101 ally reinforce each other’s behavior is the founda-
 102 tion of sociological works by Erving Goffman
 103 (1958) and Harold Garfinkel (1964) and under-
 104 pins later work on “intersubjectivity” (Schegloff
 105 1992).

106 The DEP shares commonalities with other the-
 107 ories explaining autistic social interaction. Ian
 108 Hacking’s research on “the looping effect”

explores the two-way effects of empathy that 109
 exists between society and individuals (Hacking 110
 1996), wherein knowledge about an autistic diag- 111
 nosis shapes the way autistic people behave and 112
 how others orientate to them, in turn “looping 113
 back” to reinforce societal expectations. Similari- 114
 ties can also be found in the work of Beardon 115
 (2017) in regard to what he refers to as “cross- 116
 neurological theory of mind,” and in the work of 117
 Chown (2014) who examined the double empathy 118
 problem through the use of Wittgenstein’s 119
 criteriological view of mind. 120

Current Knowledge 121

A small but growing body of experimental 122
 research is consistent with the notion that non- 123
 autistic people perceive autistic people differently 124
 and are prone to misperceiving autistic people. 125

Studies of Mindreading 126

Several studies have investigated whether non- 127
 autistic people find facial expressions of autistic 128
 people more difficult to read than those of non- 129
 autistic people. The majority of these studies 130
 asked groups of autistic and non-autistic partici- 131
 pants to pose a series of facial expressions of 132
 emotion. Photos of these expressions were then 133
 shown to a separate group of raters who were 134
 blind to the diagnostic status of the participants 135
 and were asked to judge the emotion. Some stud- 136
 ies have found the expressions of autistic partici- 137
 pants were recognized more poorly than those 138
 posed by non-autistic comparison participants 139
 (Macdonald et al. 1989; Brewer et al. 2016), 140
 although others have found little difference 141
 (Volker et al. 2009). 142

Some studies have attempted to capture emo- 143
 tional expressions in more naturalistic ways, 144
 closer to the circumstances under which they 145
 may be observed in everyday life. Grossman 146
 et al. (2013) used a story retelling task and found 147
 that non-autistic adults were equally able to use 148
 facial expressions to identify the emotional con- 149
 tent of a story told by autistic and non-autistic 150
 participants. Faso et al. (2015) elicited emotions 151
 in autistic and non-autistic participants by 152

153 narrating autobiographical memories to them,
 154 finding that the facial expressions of autistic par-
 155 ticipants were recognized just as accurately as
 156 those of non-autistic participants, and in fact,
 157 anger was recognized more accurately for autistic
 158 participants.

159 Non-autistic people may also have difficulty
 160 interpreting other aspects of autistic people's
 161 behavior. Sheppard et al. (2016) investigated
 162 non-autistic participants' ability to interpret the
 163 behavioral reactions of autistic people in natural-
 164 istic social interactions. Autistic and non-autistic
 165 participants were covertly filmed reacting to a
 166 seemingly incidental but actually scripted aspect
 167 of the researcher's behavior. While briefing the
 168 participant, she either told them a joke, paid
 169 them some compliments, told them about the dif-
 170 ficult day she was having, or kept them waiting
 171 while doing irrelevant activities. Non-autistic par-
 172 ticipants who viewed the recorded videos were
 173 less able to guess which event the video partici-
 174 pant had experienced for autistic than non-autistic
 175 participants, apart from for reactions to the joke.
 176 Edey et al. (2016) asked autistic and non-autistic
 177 participants to manipulate two triangles to create
 178 animations depicting mental state interactions
 179 such as "coaxing" or "mocking." Non-autistic
 180 observers who viewed the animations were better
 181 at identifying the mental state depicted for anima-
 182 tions created by other non-autistic participants
 183 than autistic participants.

184 In summary, research in this area suggests that
 185 while non-autistic people may sometimes be able
 186 to identify facial expressions of autistic people,
 187 they have difficulty making sense of autistic peo-
 188 ple's behavior in context which might negatively
 189 impact on social interactions between autistic and
 190 non-autistic people.

191 **Studies of Forming First Impressions**

192 Research has also asked a more general question
 193 of how autistic people are perceived by non-
 194 autistic others. If autistic people are perceived
 195 less favorably, then this could result in avoidance
 196 and social exclusion, contributing to the social
 197 difficulties they experience. Stagg et al. (2014)
 198 found that non-autistic adults rated autistic chil-
 199 dren as less expressive and less attractive than the

200 non-autistic children based on brief videos of
 201 them. Meanwhile, children rated them lower on
 202 a variety of evaluative dimensions. In a study
 203 using a much larger sample of adult participants,
 204 Sasson et al. (2017) carried out three studies in
 205 which they showed that non-autistic adults rated
 206 autistic adults and children less favorably than
 207 non-autistic adults and children on a wide variety
 208 of evaluative dimensions, as well as indicating
 209 reduced intentions to engage with them.

210 Further research by Sasson and Morrison [AU2](#)
 211 (2017) examined the impact of providing diagnos-
 212 tic labelling information on the impressions
 213 formed. They compared non-autistic participants'
 214 judgments of video participants displayed with
 215 either no label, the correct diagnostic label, or
 216 the alternative label (e.g., labelling the autistic
 217 person as having no diagnosis). Autistic and
 218 non-autistic participants were rated more posi-
 219 tively when labelled as autistic than when no
 220 label or the alternative label was provided,
 221 although this did not completely eradicate the
 222 tendency to form more negative impressions of
 223 the autistic participants. Moreover, raters with
 224 higher levels of autism knowledge gave more
 225 favorable ratings to correctly labelled autistic par-
 226 ticipants. Taken together these results suggest that
 227 diagnostic disclosure might reduce negative first
 228 impressions of autistic people, especially for peo-
 229 ple with greater knowledge about autism.

230 **Studies of Metaperception**

231 Some researchers have combined elements of
 232 mindreading and impression formation by exam-
 233 ining metaperception, which is the ability to form
 234 an impression of what others think about
 235 us. Sasson et al. (2018) investigated meta-
 236 perception using the same videos from Sasson [AU3](#)
 237 et al. (2017) and Sasson and Morrison (2017b).
 238 Video participants were asked to estimate how
 239 they thought others would perceive them on a
 240 wide range of personality traits, and then
 241 observers judged them on the same traits after
 242 viewing their video. They found that autistic par-
 243 ticipants were less accurate than non-autistic par-
 244 ticipants in judging how they would be perceived
 245 as others, because they overestimated how posi-
 246 tively they would be perceived.

247 While Sasson et al. (2018) study asked partic- 294
 248 ipants about how they come across to others in 295
 249 general, Usher et al. (2018) studied impressions 296
 250 formed by dyads of adolescents where one mem- 297
 251 ber of the dyad was autistic and one was not, who 298
 252 engaged in a 5-min conversation. Autistic partic- 299
 253 ipants were found to be more accurate in judging 300
 254 whether the non-autistic partner liked them than 301
 255 non-autistic participants were. This is consistent 302
 256 with non-autistic people having difficulty 303
 257 interpreting autistic people, and suggests that 304
 258 autistic people may be adept in using social feed- 305
 259 back from a specific person to gauge how they are 306
 260 perceived by that particular individual. 307

261 Metaperception has also been investigated 308
 262 between dyads of autistic and non-autistic people 309
 263 who know each other well. Heasman and Gilles- 310
 264 pie (2017) used the Interpersonal Perception 311
 265 Methodology (IPM) to investigate perceptions 312
 266 and misperceptions for dyads of autistic individ- 313
 267 uals and their family members. Both groups pre- 314
 268 dicted that the other would rate them differently 315
 269 than they had themselves on a number of charac- 316
 270 teristics, evidencing an ability to take a perspec- 317
 271 tive distinct from their own. Moreover, there were 318
 272 few differences for either group between pre- 319
 273 dicted ratings of the other and actual ratings 320
 274 made by the other, such that both groups were 321
 275 fairly accurate in estimating others' perceptions. 322
 276 When asked about reasons for misunderstandings, 323
 277 family members tended to cite an extreme impair- 324
 278 ment in social understanding of the autistic per- 325
 279 son, while autistic participants themselves 326
 280 reflected on both the self and other as causes of 327
 281 misunderstandings. 328

282 Overall, studies of metaperception suggest that 329
 283 autistic people are quite good at estimating how 330
 284 specific others perceive them but may have some 331
 285 difficulty judging how they come across in gen- 332
 286 eral. Consistent with the DEP, non-autistic people 333
 287 may have difficulty working out how they are 334
 288 perceived by autistic people whom they have 335
 289 just met. 336

290 Neurodiverse Interactions

291 It has been observed that autistic people appear to 337
 292 have a greater affinity with other autistic people 338
 293 than non-autistic people generally do (Chown 339

294). This raises the possibility that autistic peo- 294
 ple may show improved, if not superior, under- 295
 standing of other autistic people and may 296
 consequently show few signs of "social impair- 297
 ment" in the company of their in-group. Research 298
 conducted by Gernsbacher et al. (2017) is consis- 299
 tent with this. Autistic and non-autistic partici- 300
 pants completed the Broad Autism Phenotype 301
 Questionnaire (designed to measure autistic traits) 302
 but with the context specified as either non- 303
 autistic people or other autistic people, e.g., "I 304
 like being around autistic people/non-autistic peo- 305
 ple." Both groups reported having more autistic 306
 traits when the context was specified as the out- 307
 group as opposed to the in-group, and the level of 308
 social impairment of the two groups did not differ 309
 when the in-group was the context. 310

311 Other studies have been less successful in dem- 311
 onstrating an in-group advantage in perception for 312
 autistic people. For example, Brewer et al. (2016) 313
 found that both autistic and non-autistic viewers 314
 were poorer at identifying the emotions posed by 315
 autistic participants, suggesting that emotion 316
 expression in autism may be idiosyncratic to the 317
 individual. In Edey et al. (2017) there was also no 318
 in-group advantage: autistic viewers were equally 319
 able to identify the mental state depicted in ani- 320
 mations created by autistic and non-autistic par- 321
 ticipants. Nevertheless, more research is needed in 322
 this area as it remains possible that an in-group 323
 advantage in understanding may be observed in 324
 more natural contexts. 325

326 Interventions Addressing the DEP

327 The DEP has been incorporated into a number of 327
 autism training and intervention programs. It is 328
 one of five elements of best practice in autism that 329
 form the National Autistic Society's (UK) SPELL 330
 framework, which incorporates measures to 331
 reduce the double empathy gap. Other autism 332
 interventions that target the social situation rather 333
 than solely the autistic person also have the poten- 334
 tial to ameliorate DEP effects. For instance, 335
 ATLASS training by Studio3 focuses on acknowl- 336
 edging how the context (carer or service staff) 337
 influence the autistic person's behavior, mediated 338
 by levels of stress. AT-Autism also include ele- 339
 ments of the DEP in their Synergy programme 340

341 which is for professionals working in schools and
 342 aims to develop their understanding of how vari-
 343 ous factors including aspects of the social envi-
 344 ronment affect the autistic child's experience of
 345 the world. Further research is needed to evaluate
 346 such interventions taking into account perspec-
 347 tives of both the autistic and non-autistic
 348 participants.

349 **Future Directions**

350 Expanding the current evidence base for the dou-
 351 ble empathy problem will help to improve under-
 352 standing about the processes through which it
 353 occurs, its scale and impact across different con-
 354 texts of social life, and possible interventions that
 355 can ameliorate its negative social effects for both
 356 autistic and non-autistic individuals.

357 Further research could explore the empirical
 358 link between being misunderstood or perceived
 359 negatively and measures of quality of life (e.g.,
 360 mental health) (Milton and Sims 2016). A variety
 361 of factors could be investigated with respect to
 362 this relationship. For example, the effects of a
 363 two-way breakdown in empathy and understand-
 364 ing may result from a difference between mono-
 365 tropic individuals, who have the tendency to
 366 localize attentional resources on a specific interest
 367 to the exclusion of other potential inputs, and
 368 polytropic individuals who are capable of spread-
 369 ing their attentional resources to multiple inputs
 370 simultaneously (Murray 1992; Murray et al.
 371 2005). Further research on the link between the
 372 DEP and monotropism could shed light on the
 373 developmental origins of the DEP, particularly
 374 given that most research to date has focused on
 375 adults, but we might assume these difficulties
 376 arise as a consequence of a transactional, albeit
 377 socially situated, developmental process. Another
 378 feature to explore is the role of culture in ampli-
 379 fying misunderstandings. Milton (2014) explored
 380 theoretically to what extent the DEP is culturally
 381 embedded, given the different representations and
 382 approaches to autism in popular culture and
 383 suggested that culture may contribute to some
 384 difficulties in "interactional expertise" (Collins
 385 and Evans 2007) between autistic and non-autistic

386 people. Cultural misinterpretations are an area of
 387 interactional difficulty that are easier to change
 388 than one's dispositional nature, thus in addition
 389 to developing new, holistic interventions, the DEP
 390 may also have implications for updating existing
 391 interventions, which often place social
 392 normativity as an assumed improvement on qual-
 393 ity of life, when this is not always the case (Milton
 394 2016b).

395 The DEP may have important application to a
 396 number of different areas of social life, particu-
 397 larly for older autistic populations who experience
 398 rapid increases in the size and diversity of their
 399 social networks as they progress through adoles-
 400 cence and adulthood (White et al. 2009). For
 401 example, as mentioned above, the DEP may help
 402 to explain why so many autistic adults have such
 403 high comorbidity with mental health issues. Pres-
 404 sures for children to become independent in late
 405 adolescence can place an increasing strain on
 406 family relationships, which may be amplified by
 407 the DEP effects especially if autistic people are
 408 disproportionately held accountable for break-
 409 downs in understanding (Heasman and Gillespie
 410 2017). Breakdowns in family relations may con-
 411 sequently deny autistic people of the few social
 412 supports available and could detrimentally impact
 413 perceptions of autism acceptance (Cage et al.
 414 2017). Future directions for research should
 415 examine the perspectives of autistic family mem-
 416 bers in addition to autistic people themselves to
 417 identify the supports required as they transition
 418 towards being an informal carer.

419 Finding and retaining employment for autistic
 420 people is another context in which the DEP is
 421 particularly salient. The social encounter of the
 422 job interview and the difficulty in managing pro-
 423 fessional relations (which are qualitatively differ-
 424 ent from all other relationships) are two
 425 environments governed by complex roles,
 426 norms, and expectations which can easily lead to
 427 misunderstandings (Hendricks 2010). Future
 428 research can examine employers' potential biases
 429 in social perception of autistic adults which may
 430 impede progress in job interviews and daily work-
 431 ing tasks. This may help to identify the contribut-
 432 ing factors towards the current autism
 433 employment gap observed in many countries.

434 The DEP may also help to shed light on the
 435 numerous encounters autistic people face as they
 436 progress through the justice system, such as pro-
 437 viding a police statement or testimony in court. In
 438 such interactions autistic people will be highly
 439 anxious potentially reducing their credibility as
 440 their behavior and intentions are susceptible to
 441 misinterpretation. In addition, research has
 442 shown that autistic people have difficulty in
 443 recalling events personally experienced (Maras
 444 and Bowler 2014), thus future directions for
 445 research can examine the perspectives of magis-
 446 trates in interpreting and scaffolding such recall,
 447 as well as the impressions that jury members may
 448 take from such encounters.

449 Late diagnosis of autism can leave many autis-
 450 tic adolescents and adults facing a variety of
 451 neurotypical interactions as they attempt to access
 452 support and services for their disability. The pro-
 453 cess of assessing disability needs may be further
 454 complicated by masking and camouflaging (Dean
 455 et al. 2017) and anxiety about outcomes both in
 456 terms of financial support and impacts on one's
 457 identity (Kite et al. 2013). Moreover, research on
 458 other disability assessment procedures have
 459 highlighted the difficulty in translating one's
 460 impairment into criteria on assessment forms
 461 since caregivers and care-receivers have divergent
 462 perspectives on the burden of care (Moore and
 463 Gillespie 2014). Further research should therefore
 464 examine the DEP in terms of the perspectives
 465 involved in the social encounters experienced
 466 throughout the diagnostic pathway, and the insti-
 467 tutional barriers that exist between the disabilities
 468 experienced and the instruments used to measure
 469 the support needs of disabilities.

470 Sexuality, sexual health, and gendered self are
 471 important frontiers for future research on the DEP
 472 since one's sense of self is relationally formed
 473 (Dewinter et al. 2017; Yergeau 2017). In addition
 474 to misunderstanding autistic perspectives, the
 475 complex sensory needs many autistic people
 476 experience may further contribute to mis-
 477 alignment of perspective in sexual encounters.
 478 Autistic vulnerability in social understanding
 479 means there is great risk of potential harm or
 480 abuse that might result from DEP misunderstand-
 481 ings in intimate relationships. Further research

482 should explore these risk factors to inform educa-
 483 tion and support provided.

484 Finally, the DEP also has epistemological
 485 implications in terms of participatory and eman-
 486 cipatory research. The two-way nature of misun-
 487 derstandings that are observed in interpersonal
 488 relations also exist between researcher and partic-
 489 ipant. For example, in the UK autistic adults
 490 report a mismatch between their priorities for
 491 research and the funding for autism research,
 492 which should focus more on how to make a dif-
 493 ference to people's day-to-day lives (Pellicano
 494 et al. 2014). It is therefore important that research
 495 design and engagement benefit from autistic
 496 involvement (Milton and Bracher 2013; Milton
 497 2014b).

498 **See Also**

- 499 ▶ [Monotropism](#)

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