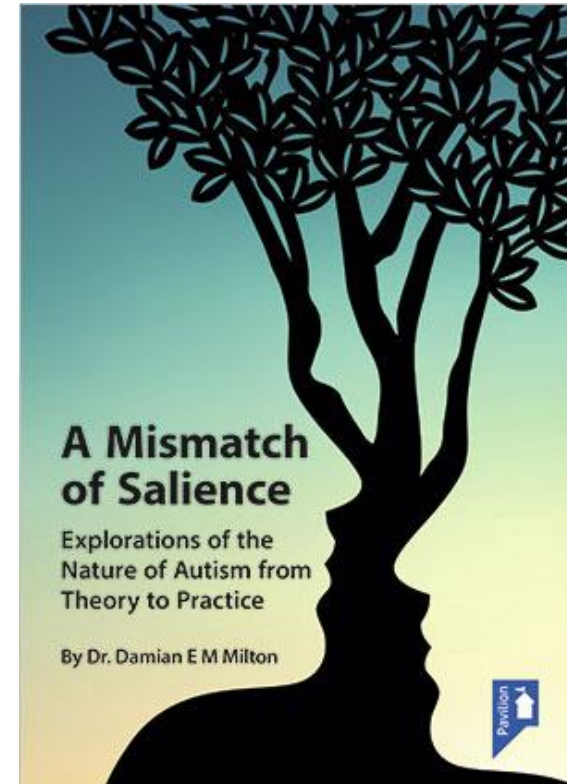


The double empathy problem - towards mutual understanding in a neurodiverse world

Dr. Damian E M Milton



- *The autist is only himself...and is not an active member of a greater organism which he is influenced by and which he influences constantly. (Asperger, 1991: 38).*
- The 'theory of mind' model and what it leaves out.

Early days and how the theory developed

- “Embodied sociality and the conditioned relativism of dispositional diversity” (Milton, 2014b) – reflections on work from the 1990s.
- By late 2000s had come across the work of autistic authors such as Jim Sinclair and Claire Sainsbury and had started to use the term ‘double empathy problem’ at a parent group I was a part of as a response to ideas regarding ‘theory of mind’
- First presentations on topic in 2010, and first publication in a journal in 2012.
- Yet not alone in way of thinking – see Ian Hacking, Victoria McGeer, Luke Beardon, and Rachel Cohen-Rottenberg among others.

Mutual incomprehension

- *“95% of people don’t understand me”.*
- *“Friends are overwhelming”.*
- *“Adults never leave me alone”.*
- *“Adults don’t stop bullying me”.*

- Quotes taken from Jones et al. (2012).

The 'double empathy problem'

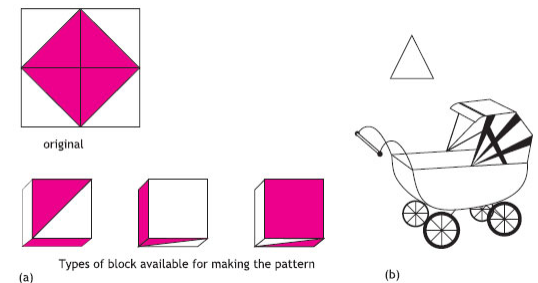
- A case of mutual incomprehension?
- Breakdown in interaction between autistic and non-autistic people as not solely located in the mind of the autistic person. The theory of the double empathy problem sees it as largely due to the differing perspectives of those attempting to interact with one another (Milton, 2012a; 2014a; Milton et al. 2018; Chown, 2014).
- Theory of autistic mind can often leave a great deal to be desired.
- Fork handles!

Dyspathy

- Cameron (2012) uses the term ‘dyspathy’ to highlight how empathy is often blocked or resisted by people.
- Such research supports the earlier social psychological theories of Tajfel (1981), which found that people felt increasing emotional connection to those deemed within their social ‘in-group’, whilst stereotyping ‘outsiders’.
- *“If we were to be continually tuning into other people’s emotions, we would be perpetually anxious or exhilarated, and very quickly exhausted. We must therefore have very efficient inhibitory mechanisms that screen out most of the emotional empathy being carried out by our brains, without us even noticing.”* (Cameron, 2012).

An 'interest model' of autism

- Autism and cognitive models of deficit.
- Autism and monotropism (Murray et al. 2005; Lawson, 2010).
- Attention as a scarce resource.
- Monotropic attention strategies and the 'attention tunnel'.
- Monotropism, repetitive behaviour and interests, and 'flow states'.



Interactional expertise

- The imitation game.
- Contributory expertise.
- How much interactional expertise is possible (Milton, 2014)?
- How much effort has been made by researchers and those designing practice models?

The evidence-base

- Sheppard et al. (2016) investigated non-autistic participants' ability to interpret the behavioural reactions of autistic people in naturalistic social interactions.
- Non-autistic participants who viewed the recorded videos were less able to guess which event the video participant had experienced for autistic than non-autistic participants, apart from for reactions to a joke.

Studies of forming first impressions

- Research has also asked a more general question of how autistic people are perceived by non-autistic others.
- If autistic people are perceived less favourably then this could result in avoidance and social exclusion, contributing to the social difficulties experienced.
- Stagg et al. (2014) found that non-autistic adults rated autistic children as less expressive and less attractive than the non-autistic children based on brief videos of them.

- Sasson et al. (2017a) carried out three studies in which they showed that non-autistic adults rated autistic adults and children less favourably than non-autistic adults and children on a wide variety of evaluative dimensions, as well as indicating reduced intentions to engage with them.
- Further research by Sasson et al. (2017b) examined the impact of providing diagnostic labelling information on the impressions formed and found this to have a positive effect.

Studies of metaperception

- Sasson et al. (2018) participants were asked to estimate how they thought others would perceive them on a wide range of personality traits, then observers judged them on the same traits after viewing a recording of them.
- They found that autistic participants were less accurate than non-autistic participants in judging how they would be perceived as others, because they overestimated how positively they would be perceived.

- Usher et al. (2018) studied impressions formed by dyads of adolescents where one member of the dyad was autistic and one was not, who engaged in a five-minute conversation.
- Autistic participants were found to be more accurate in judging whether the non-autistic partner liked them than non-autistic participants were.

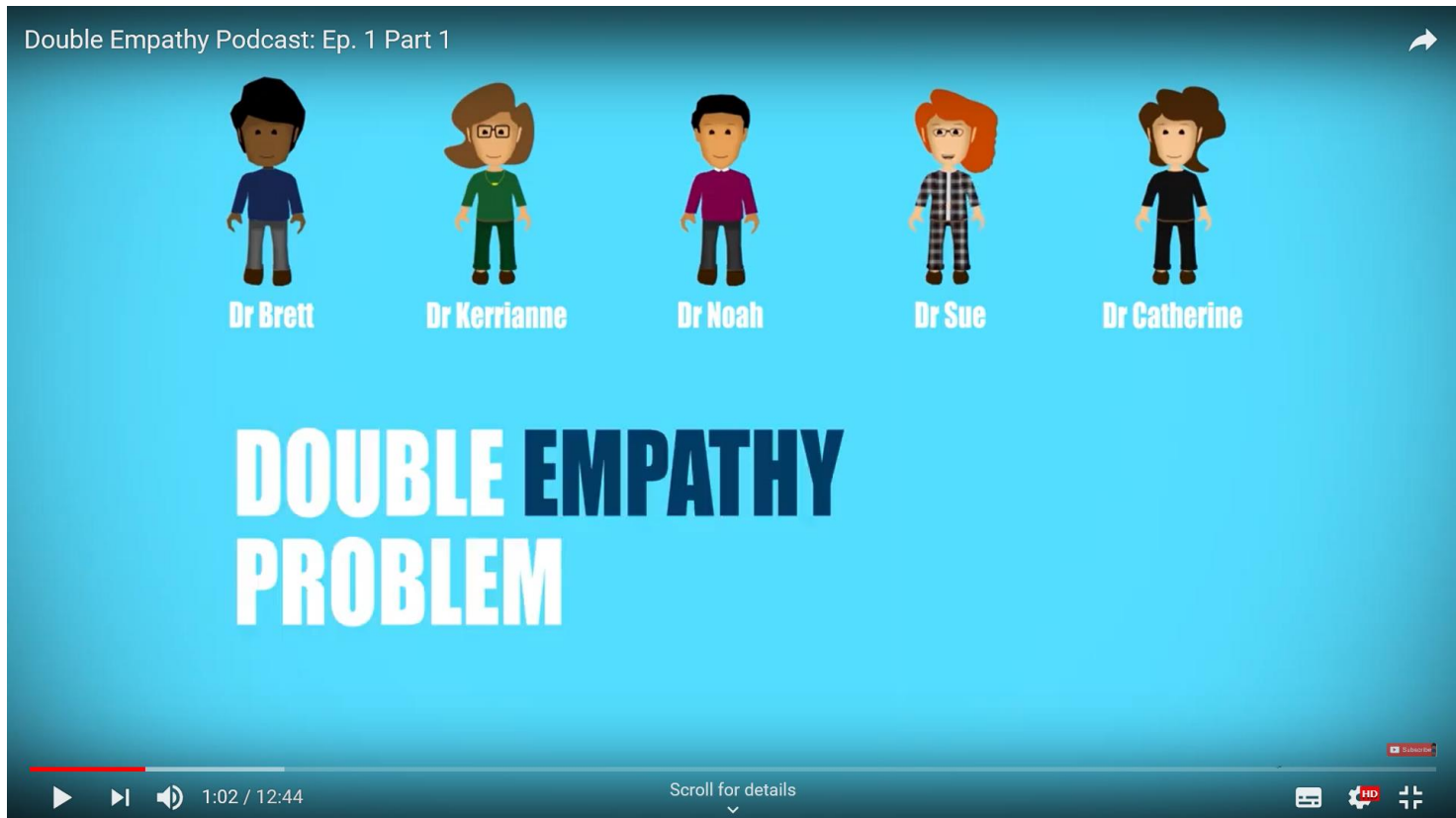
- Heasman and Gillespie (2017) investigated perceptions and misperceptions for dyads of autistic individuals and their family members.
- When asked about reasons for misunderstandings, family members tended to cite an extreme impairment in social understanding of the autistic person, while autistic participants themselves reflected on both the self and other as causes of misunderstandings.

- Overall, studies of metaperception suggest that autistic people are quite good at estimating how specific others perceive them, but may have some difficulty judging how they come across in general. Consistent with the DEP, non-autistic people may have difficulty working out how they are perceived by autistic people whom they have just met.

Interactions between autistic people

- It has been observed that autistic people appear to have a greater affinity with other autistic people than non-autistic people generally do (Chown, 2014).
- This raises the possibility that autistic people may show improved, if not superior, understanding of other autistic people and may consequently show fewer signs of 'social impairment' in the company of their in-group (Tajfel, 1981).
- This is indeed what has been shown in work carried out by Catherine Crompton at the University of Edinburgh: [Autistic peer-to-peer information transfer is highly effective - Catherine J Crompton, Danielle Ropar, Claire VM Evans-Williams, Emma G Flynn, Sue Fletcher-Watson, 2020 \(sagepub.com\)](#)

The Double Empathy Problem Virtual Symposium



New directions

- The work of Robert Chapman, and designers such as Wendy Keay-Bright, Katie Gaudion and Jelle van Dijk.
- Crossover with neuroscientific theory regarding ‘predictive coding’:
- The dialectical misattunement hypothesis: *“...views psychopathology not merely as disordered function within single brains but also as a dynamic interpersonal mismatch that encompasses various levels of description.”* (Bolis, 2017).
- A ‘mismatch of salience’.

New directions


- [Using interpretative phenomenological analysis in autism research - Katie Howard, Napoleon Katsos, Jenny Gibson, 2019 \(sagepub.com\)](#)
- [An Expert Discussion on Autism and Empathy | Autism in Adulthood \(liebertpub.com\)](#)
- [Frontiers | Mutual \(Mis\)understanding: Reframing Autistic Pragmatic “Impairments” Using Relevance Theory | Psychology \(frontiersin.org\)](#)
- [Autism and the double empathy problem: Implications for development and mental health - Mitchell - 2021 - British Journal of Developmental Psychology - Wiley Online Library](#)
- [Barriers to healthcare for autistic adults: Consequences & policy implications. A cross-sectional study | medRxiv](#)
- [Non-Autistic Children Do Not Object to Autistic-Like Behaviors – YouTube](#)

New directions – Yo-Lun Chen and Kristie Patten; Debrander et al.

Student-Peer Neurotype Match Rather than Autistic Diagnosis Predicts Peer Connection Density and Strength in Autistic¹ and Non-Autistic Adolescents in an Inclusive School Club

We use an identity-first language as it is preferred by a large percentage of the autistic community (Berry et al., 2018)

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Background

- Social connections are crucial to autistic mental health and well-being.
- Research on autistic social connections indicates that autistic students tend to have fewer peer relationships and are prone to their classroom social networks.
- Both though social interactions are bidirectional, little is known about how peer neurotypes affect autistic students' social outcomes.
- The double empathy problem theory posits that autistic people's social challenges may be due to a bidirectional mismatch between autistic and nonautistic social perceptions and characteristics, emphasizing the role of social peer context (Social Interactions, 2018).
- Recent studies found that within-neurotype social interaction predict better social outcomes than cross-neurotype interactions, suggesting the need to understand how peer factors affect autistic social outcomes.

Objectives

- To compare same-neurotype and cross-neurotype peer connections among autistic and non-autistic adolescents in an inclusive school social networks of peer interactions to inclusive education.
- To investigate whether student peer neurotype match predicts student's quantity and strength of social connections, besides autism diagnosis.
- To examine whether student social networks demonstrate assortative mixing based on neurotype or social identity, that is, whether students tend to connect with same-neurotype peer or a peer with similar levels of social activity/proximity.

Method

- Participants: 8 autistic and 6 non-autistic adolescents (grades 6 to 12).
- Setting: an inclusive school club (Maker Club) at public middle school in a large urban area.
- Student social networks in this club were plotted based on length of observation of peer interactions in 8 club sessions over 5 months.
- The following social network measures were calculated for both within- and cross-neurotype peer connections:
 - Degree centrality: The quantity of a student's social connections.
 - Nodes strength: The total strength of a student's social connections, as indicated by reputation rates for four traits.
- Assortativity coefficients were calculated to examine assortative mixing by neurotype and degree centrality in the club networks.

Results

- Figure 1 shows the proportions of within- and cross-neurotype peer connections in autistic and non-autistic students. Both groups showed higher degree centrality and stronger nodes strength in within-neurotype than cross-neurotype conversations (Table 1).
- Mixed effects models showed that student peer neurotype match was significantly associated with more social ties and stronger connection strength when controlling for student neurotype and gender (Table 2), suggesting that students had more and stronger within- than cross-neurotype peer connections.
- Autistic students did not predict better degree or quality of stronger connections in both networks.
- Figure 2 plots the average club social network across 8 sessions. The plot reveal a strong tendency for students to connect with same-neurotype peer, particularly in the subgraph of strong peer connections.

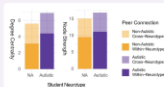


Figure 1. Within- and cross-neurotype social connections.

Figure 2. Degree centrality suggests the quantity of within- and cross-neurotype connections in each student group.

Figure 3. Nodes strength suggests the strength of autistic students' interactions with same- and cross-neurotype peers.

Results (cont)

- The assortativity coefficient by neurotype (mean \pm across sessions = 0.24, SD = 0.23) revealed a tendency for students to connect with same-neurotype peers.
- Students showed little tendency to connect with peers with similar levels of social activity and proximity (mean \pm SD: 0.10, SD = 0.10).

Table 1. Degree Centrality and Node Strength by Neurotype

Neurotype	Autistic	Non-Autistic
Within-Neurotype	1.87 (0.71)	2.01 (0.71)
Cross-Neurotype	1.12 (0.52)	1.22 (0.52)

Table 2. Degree Centrality and Node Strength by Neurotype

	Autistic	Nonautistic Match	Female
Degree	0.87***	0.14	-0.1
Strength	0.27***	0.07	0.18

Conclusions

This preliminary study explored the role of interpersonal similarity on autistic adolescents' social networks in natural peer interactions.

The results showed that matched student peer neurotype rather than autism diagnosis predicted the quantity and strength of connections, and students tended to connect with their same-neurotype peers.

This study emphasized that peer context influences autistic social networks, suggesting that social interventions may start to look beyond autistic social behaviors to peer context, such as peer understanding.

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Autistic Adults Accurately Detect Social Disinterest in their Conversation Partners when Non-Autistic Adults Do Not

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Background

- Misinterpretation often to have one perspective they are perceived by others.
- Consistent with a social cognitive deficit model, some studies suggest that autistic people are less accurate in gauging how they are perceived.
- Theories that studies that assess misperceptions using the reputation between self and informant report on video recordings of others' interactions.
- While real-world social interaction, autistic participants may be more accurate than non-autistic (NA) participants at predicting how they are perceived by NA conversation partners.
- This may be because they are less likely than NA participants to demonstrate a "self-enhancement" bias in which NA people overestimate how positively they are viewed by others.
- Here, we examine the accuracy of misperceptions of autistic and NA adults within one diagnostic and social diagnostic context-related tasks.
- Participants predicted how their conversation partners would evaluate the quality of the interaction, but also objective traits, and their social interest in future interactions with them.
- Our hypothesis that autistic adults would show greater misperception accuracy with autistic relative to NA conversation partners.

Methods

- 47 autistic (A) males with confirmed diagnoses, WSNA males.
- Three dual dyads (A-A, A-NA, NA-NA).
- Diagnostic and diagnostic groups comparable on core (social communication) WSNA and DQ (mean = 131) but differed slightly on age ($M_A = 25.5$, $M_{NA} = 26.8$).
- Age, sex, and IQ were controlled in analyses.
- Methods: 1) structured 5-minute "get to know you" conversation with previously unfamiliar 1 or NA partner.
- Computational questionnaires.
- Social Interaction Evaluation Measure (SIEM) - 11 items assessing conversation quality, disclosure, engagement, and intimacy. Averaged to create an overall quality composite.
- First Impression Scale (FIS) - 10 items assessing perceptions of others on six traits (e.g., awkwardness and fine social interest). If a would hang with this person. Data analyzed independently, social interest averaged to a composite.
- After the conversation, A and NA participants completed two versions of the SIEM and FIS.
- First on their partners.
- Then on how they believed their partner would rate them.

Results

After Partner Interactions (Autistic Male) (SIEM) Estimates (mean of the actor, the partner, and interaction of the three core conversation measures).

The Truth and Bias Model: Across the "truth" of a judgment (e.g., person's accuracy at predicting how they were rated by their partner) and the "bias" of a judgment (e.g., the degree to which a person over or under-estimated how they were rated by their partner).

Results

- Autistic truth values and action misperception ratings were significantly related to interaction quality, misperceptions, and misestimations.
- Autistic ratings that partners were less likely on them were predicted that their partners would rate them higher in return.
- No significant partner effects. Participants' predictions of how they were rated by their partners did not align with their partners actual ratings.
- Significant interaction between actor diagnosis and the partner's truth value for social interest ($p = .003$).
- Autistic misperceptions for social interest were significantly related to the partner's actual evaluation the autistic adults ($p = .007$) but not NA adults ($p = .26$).
- Misperception of intelligence was significantly related to the truth value for NA adults ($p = .02$).
- NA participants who perceived themselves to be more intelligent were rated as less intelligent by partners. This effect was not significant for autistic adults ($p = .16$).

Conclusions

- Both autistic and NA adults showed relatively poor misperception for many traits.
- All participants, not just autistic ones, had difficulty predicting how others viewed them after a conversation.
- However, only autistic adults' ratings of their partner's social interest aligned with how those partners actually perceived them.
- They accurately predicted both when their partners wanted to interact again and when they did not. Such findings are inconsistent with a social cognitive deficit interpretation.
- In contrast, NA adults predicted that their conversation partners would be more interested in future interaction with them than their autistic and NA partners actually reported.
- Autistic adults did not show the typical NA "self-enhancement bias".
- This may be due to prior poor social experiences and internalized beliefs that contribute to them expecting low social interest.
- The more accurate appraisal of their partners social interest would relate to greater social experience and social anxiety than NA adults who assume greater social interest from others.

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Cultural imperialism

- Those that have power in society can determine how those in a position of powerlessness are interpreted and talked about (Young, 1990).
- Notions such as 'ableism' and 'mansplaining' can be seen as having roots in similar notions of a taken-for-granted unconscious frame of reference which renders the 'other' invisible.



Power

- Important to remember that the double empathy problem is situated within wider unequal (and intersectional) power relations.
- Avoiding tokenism and ceding power. Humility and rapport (tacit knowledge) building.
- Reducing imposition of social expectations.

Collaboration

- Setting the research agenda.
- Design and development of strategies and methodologies.
- Avoiding tokenism...
- The Participatory Autism Research Collective (PARC):
www.PARCAutism.co.uk



Frontiers for Young Minds article

- Double Empathy:
Why Autistic
People Are Often
Misunderstood .
Frontiers for
Young Minds
(frontiersin.org)



A couple of quotes to conclude:

- *Grant me the dignity of meeting me on my own terms...Recognise that we are equally alien to each other, that my ways of being are not merely damaged versions of yours. Question your assumptions. Define your terms. Work with me to build bridges between us. (Sinclair, 1993).*

- *When I am in an environment I feel comfortable in, with people who are kind and tolerant, and doing things I enjoy, then I am as happy as the next person. It is when people tell me I should think, speak or behave differently that I start to feel different, upset, isolated and worthless. So surely the problem is a lack of fit with the environment rather than something inside my brain that needs to be fixed? (Victoria, 'Are You Taking Something for It?', issue 76, 12; cited in Milton and Sims, 2016).*

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