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| Title | Moral distress and moral injury in the context of autism |
| Type | Article |
| URL | https://clock.uclan.ac.uk/51745/ |
| DOI | https://doi.org/10.1108/AIA-05-2023-0025 |
| Date | 2024 |
| Citation | Al-Attar, Zainab and Worthington, Rachel Elizabeth (2024) Moral distress and moral injury in the context of autism. <i>Advances in Autism</i> . ISSN 2056-3868 |
| Creators | Al-Attar, Zainab and Worthington, Rachel Elizabeth |

It is advisable to refer to the publisher's version if you intend to cite from the work.
<https://doi.org/10.1108/AIA-05-2023-0025>

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Moral Distress and Moral Injury in the Context of Autism

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| Journal: | <i>Advances in Autism</i> |
| Manuscript ID | AIA-05-2023-0025.R4 |
| Manuscript Type: | Review Paper |
| Keywords: | Autism, Moral, Injury, Transgression, Rumination, Distress |
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Moral Distress and Moral Injury in the Context of Autism

Abstract

Purpose - Clinically, it is often observed that autistic people may have a heightened need for rules and may find rule violations very distressing. It is clinically plausible that autistic individuals may be prone to hyper-morality and greater reactivity and adverse experiences arising from moral threats and violations. Such adverse experiences may in some instances lead to moral distress or in more extreme cases moral injury. Thus it is important to examine how moral distress can operate in the context of autism.

Design - We explore clinical hypotheses on how moral distress can intersect with different features of autism, by drawing on clinical and research knowledge of autism spectrum disorder and how it contextualises experiences of morality.

Findings - Based on a review of the literature and theory, we hypothesise that autistic individuals may be more prone to moral distress where they have a 1) lower threshold for moral distress, 2) and because of this lower threshold have more frequent exposure to moral distress, 3) experience more immediate and intense subjective reactions to moral transgressions, for 4) more protracted periods. Also, they may find it 5) more difficult to override and neutralise moral outrage. As a result, they may be more susceptible to mental health sequelae and impaired social and occupational functioning. Practical recommendations are made for clinicians supporting people with autism with a propensity for moral distress or moral injury, to improve their quality of life.

Originality - Understanding moral distress in an autistic context is important for detecting and treating the adverse impacts of moral distress on autistic individuals. Importantly, erroneous preconceptions about moral reasoning in autism need to be mitigated, in order to fully understand the moral experiences and harness the many strengths of people with autism.

Keywords: Autism; Moral; Distress; Injury; Transgressions; Rumination.

Introduction

Autism spectrum disorder (ASD) is a neurodevelopmental disorder characterized by differences in social communication and social interaction and the presence of stereotyped or repetitive interests or behaviour (American Psychiatric Association [APA], 2013). Autism has very broad diagnostic criteria and different autistic individuals show markedly different characteristics, including the presence or absence of accompanying intellectual disability. This paper will focus on people with autism without an intellectual disability and seek to generate clinical hypotheses about how moral distress can unfold in the autism context and in some cases this may lead to moral injury.

What are morals?

Morals are defined as the intentions, decisions and actions that are distinguished as right and wrong (Long and Sedley, 1987). Determining what is 'right' or 'wrong' may be considered from differing perspectives. Moral Universalism refers to the idea that there is an absolute moral truth and that all moral rules should be applied to all people and situations (Ten Have and Gordijn, 2014). Moral Relativism on the other hand considers there are no universally agreed standards of right and wrong and that morals are subjectively influenced by factors such as cultural norms, social factors and customs etc. (Aarsbergen, 2006). For the purposes of this paper moral relativism will be adopted as moral distress and moral injury relate to contexts in which more abstract moral constructs are considered.

Moral rules are considered to be the rules that guide people on how to behave in accordance with moral values (Frederick, 2009). These may comprise of common sense moral rules and rules of etiquette. Furthermore, it is argued that one set of moral rules should not be at the expense of others. That is, they should not be illogically inconsistent or incompatible. However, moral rules may be ambiguous. For example, Frederick (2009) noted that if we suppose that someone promised to have lunch with a friend but broke that promise because they gave a person mouth to mouth resuscitation causing them to miss their train. In this instance the moral rule of preventing harm supersedes the moral rule of keeping a promise. Thus, it has been suggested that common sense moral decisions that conflict are determined by different foundations of importance to the individual and are culturally dependant

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3 (Aarsbergen-Ligtvoet, 2006). Individual moral foundations (Haidt, 2012) have been proposed
4 to comprise of the following:
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- 6 • Care/harm
- 7 • Fairness/reciprocity
- 8 • In-group/loyalty
- 9 • Authority/respect
- 10 • Purity/sanctity
- 11 • Liberty

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20 Authors have debated what determines the 'weighting' of importance on moral decision
21 making. Some have argued this is innate/intuitive (Haidt, 2001) whereby morality takes the
22 form of intuitions, accomplished by rapid, automatic, and unconscious affective responses to
23 aid survival. Others suggest this is a more conscious process which develops as a result of age
24 and culture (Kohlberg, 1981). Limone and Toto (2022) noted that babies display basic altruistic
25 behaviours from birth and that morality matures during childhood. For example, Ting *et al.*
26 (2019) found that children have four basic socio-moral principles of fairness, avoidance of
27 harm and respect for authority. By adolescence morality develops further through
28 interactions with social peers, interpersonal relationships and socio-cultural factors (Limone
29 and Toto, 2022) and by adulthood it is recognised that a range of factors shape the moral
30 sense of human beings including natural moral sense, social relationships, life experiences
31 and the environment (such as culture and societal norms).
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42 It is argued that these factors may influence the weighting assigned to moral foundations
43 during moral decision-making and accounts for conflicts between moral criteria (e.g. you need
44 to adhere to agreed times when meeting others; you need to help save the life of someone
45 who's in danger), which allows an additional layer or moral rule to be generated to resolve
46 the problem (e.g. it is okay to be late to a meeting if there is a threat to someone's life).
47 Therefore, Moral Foundations Theory [MFT] (Haidt and Joseph, 2004) provides a theoretical
48 framework for the multi-dimensionality of moral decision making whereby morality is
49 comprised of a discrete set of moral foundations. These are considered to provide some
50 structure to abstract decision-making and additional layers through which moral decision-
51 making can be adapted to the situation. Nevertheless, moral resolution is not always possible
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3 or realistic and when it is not, some individuals may experience distress and difficulty
4 reconciling with it psychologically.
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10 ***Moral Stress, Moral Distress & Moral Injury***

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12 According to Litz and Kerig (2019), morally relevant life experiences exist on a continuum with
13 moral frustration at the lower end moving through to moral distress in the middle and at the
14 higher end of the continuum is moral injury. Furthermore, when a person is exposed to an
15 event or situation, where they fall on this continuum is dependent on the frequency of
16 exposure to events and the degree of psychological and social impairment caused. The degree
17 of resulting impairment may also be moderated by a person's culture and individual
18 differences.
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26 At the lower end of the continuum, some degree of moral frustration may be experienced as
27 a typical response to moral challenges whereby there is no personal self-relevance, e.g,
28 frustration with perceived government inaction in relation to climate change (Litz and Kerig,
29 2019).
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34 In the middle of the continuum are moral stressors which are deemed to be more likely to
35 result in moral distress because they directly impact on the individual (are self-referential)
36 and the most prominent symptoms experienced are emotions such as fear, anxiety, or
37 sadness (Farnsworth et al, 2017) as well as loss of sleep or intrusive thoughts. It is argued that
38 they may occur less frequently than moral challenges but have higher-stakes (or value)
39 apportioned to them (Litz & Kerig, 2019).
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46 Finally at the most extreme end of the continuum is moral injury which involves grave threats
47 to personal integrity or loss of life causing a high impact to the individual. Moral injury can
48 result in a shift in one's "view of themselves and others" and lead to feeling that "humanity,
49 has changed fundamentally in a way that is devastating, leaves them adrift, and seems to
50 them to be irreversible" (Yeterian *et al.*, 2019, pp9). This is also referred to as a moral injury
51 due to a sense of betrayal through learning about morally transgressive acts by others which
52 challenge the moral integrity not just of other individuals but also organisations and
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3 communities (Riedel *et al.*, 2022). Therefore, the following discussion will attend to
4 definitions of moral injury.
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7 According to Shay (2014) moral injury is present when: there has been a betrayal of what is
8 morally right; by someone who holds the legitimate authority; and they occur in a high-stakes
9 situation (p183). In broader clinical practice, moral injury has been conceptualised as the
10 psychological response to one's own or their peers' behaviour, as well as that of authority
11 figures. Williamson *et al.* (2021) describe moral injury as a strong cognitive and emotional
12 response that occurs following events that violate a person's moral code, including acts of
13 omission or commission, or involve betrayal by a trusted person in a high-stake situation.
14 Historically, 'high-stake' situations have been considered to comprise of situations in which a
15 loss of life may exist however the notion of moral injury has been extended from 'high stakes'
16 situations which involve the loss of life in the military and health care to situations such as
17 climate destruction (Hentritze *et al.*, 2023). In these instances it is argued that people
18 experience a high moral injury due to feeling guilty for consuming daily necessities in the
19 knowledge these may contribute to climate change. Thus their moral injury is a result of their
20 own behaviour. However, they may also experience high moral injury due to others
21 behaviours such as people in power (e.g. politics/governments/institutions) who may be
22 perceived as failing to implement policies and changes to reduce climate change. Hence, 'high
23 stakes' situations causing moral injury in this sense extend beyond situations which involve a
24 loss of life, to more morally relative notions of what is right and wrong.
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41 Morally injurious events may include an individual perpetuating, failing to prevent, bearing
42 witness to, or even just learning about acts that violate and transgress their moral beliefs and
43 expectations (Litz *et al.*, 2009). Academically speaking, both the definition of 'high-stakes'
44 situations and moral injury itself have been subject to debate due to this being a relatively
45 new field which is still being empirically explored (Cartolovni *et al.*, 2021). There is also a
46 debate about the distinction and relationship between moral injury and moral distress. It is
47 not within the scope of this paper to provide a thorough review of the literature debating the
48 different definitions of moral injury and high-stake situations, nor the difference between
49 moral injury and moral distress, as the focus of the current paper is on the clinical relevance
50 of autism for the whole spectrum of moral distress and injury. For the purposes of the current
51 paper, both moral distress and moral injury will be conceptualised clinically as the
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3 psychological response to all moral transgressions, with the difference being the degree of
4 severity and chronicity (Litz & Kerig, 2019).
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10 ***The Psychological Response to Moral Injury and Moral Distress***

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12 Moral Injury has been differentiated from PTSD in the sense that it does not have to include
13 enduring symptoms of trauma (e.g. flashbacks, nightmares, heightened startle responses and
14 memory loss) (Bryan *et al.*, 2016) and relates to a threat to morality as opposed to a threat to
15 life or safety. Moral injury is associated with shame, guilt, anger, and social alienation as a
16 result of exposure to morally injurious events (Griffin *et al.*, 2019). The effects of exposure to
17 moral injury have been found to include depression, self-depreciation (Vargas *et al.*, 2013), a
18 lack of trust in others (Williamson *et al.*, 2021), suicidal thoughts, aggression towards others
19 and substance misuse (Griffin *et al.*, 2019).
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28 Factors that are considered to protect a person from developing moral injury may include
29 individual, social and organisational factors (Griffin *et al.*, 2019). One example of an individual
30 factor is beliefs, with research finding that beliefs that the world is fair and that the person's
31 moral actions will influence moral outcomes (sometimes known as 'Just World Beliefs') as
32 well as beliefs towards the self (e.g. high self-worth). Risk factors for moral injury have been
33 argued to include: situations in which the individual feels they were unable to prevent the
34 moral transgression; social withdrawal; self-depreciation; feeling shame and/or guilt; low
35 perceived empowerment; low autonomy; and higher education levels (Riedel *et al.*, 2022).
36 Other studies have also shown that people with lower scores in compassion and higher scores
37 in criticism were more likely to experience betrayal (Zerach and Levi-Belz, 2021) and people
38 with ineffective communication were more likely to experience moral distress [Silverman *et*
39 *al.*, 2021).
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50 In contrast to moral injury, it is argued that moral distress occurs when a person experiences
51 conscious frustration and anger in responses to moral stress but this does not affect their self-
52 perception and the distress on their psychological/social functioning is moderate and short
53 term (Litz *et al.*, 2009). However, it is also argued that if moral stressors occur repeatedly then
54 it may cause what is known as a moral residue whereby repeated exposure to morally
55 stressful situations causes what is known as a crescendo effect (Riedel *et al.*, 2022) which can
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3 result in helplessness, powerlessness, shame, embarrassment, grief, misery and PTSD
4 (Papazoglou and Chopko, 2017) as well as moral injury (Riedel *et al.*, 2022). Thus using this
5 definition, moral injury may be caused not only by a rare occurring instance of grave threats
6 to personal integrity but also by repeated exposures to moral distress (Riedel *et al.*, 2022). It
7 is argued that this can lead to a loss of trust in the self, authority and systems (Shay, 2014)
8 and cause emotional, psychological and behavioural difficulties for the individual (Riedel *et*
9 *al.*, 2022).

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11 Hence, as noted, research in the field of how to define where moral distress ends and where
12 moral injury begins is open to empirical investigation (Litz and Kerig, 2019). For example, it is
13 argued that certain people may experience high levels of moral distress in response to
14 situations and struggle to cope with these due to social, environmental, and individual
15 determinants (Riedel *et al.*, 2022). Thus, what may be experienced as moral distress by one
16 person may be experienced as moral injury to another. Furthermore, defining what
17 constitutes a moral injury is dependent on the severity of moral emotions and symptoms
18 experienced by the individual and how these impact on their identity. It is for this reason that
19 there are no clear categorical demarcations or cut off points between what constitutes the
20 difference between moral challenges, moral distress, and moral injury (Litz and Kerig, 2019).
21 For example, moral injury has previously been associated with life threatening incidents
22 however it is also noted that prolonged moral distress is cumulatively intertwined with moral
23 injury (Papazoglou and Chopko, 2017). Research on the prevalence of moral injury is, by
24 comparison to other psychological concepts, in its infancy with a predominant focus on moral
25 injury within military contexts. More recent research has explored this within civilian settings
26 (Steinmetz *et al.*, 2019) in relation to an individual not being able to act in a way that is in
27 accordance with their own morals (Riedel *et al.*, 2022).

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51 In summary, what is clear is that morals are the rules by which people guide their life and
52 decision-making. When these are violated or transgressed this can cause significant negative
53 effects for the individual. It is not known why some individuals exposed to moral
54 transgressions experience moral distress or moral injury whilst others do not, although it is
55 widely accepted that bio-psycho-social factors are important to consider. One individual
56 factor that may impact biological, psychological, and social experiences, is autism spectrum
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3 disorder (hereon referred to as autism). The current paper will explore the intersection
4 between autism and moral distress and moral injury. For the purpose of this paper, both
5 moral injury and distress will be referred to as moral distress [MD], for brevity.
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11 ***Why might people with autism be at greater risk of experiencing moral distress?***

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14 Firstly it should be noted that people with autism may have many strengths such as: superior
15 creativity, focus, and memory; increased efficiency and personal qualities such as honesty and
16 dedication; and the ability to offer a unique autism-specific perspective (Cope and Remington,
17 2022). Furthermore, the ways in which autism presents varies considerably reflecting the view
18 that neurodiversity and neurological differences are natural variations of the human brain
19 that should be valued and respected (Singer, 2017). However, it has been postulated that
20 some individuals with autism may be at greater risk of experiencing moral distress (Praslova,
21 2022). The following section will present hypotheses grounded in clinical and academic
22 knowledge and theories of autism, to develop an understanding of how five different
23 dimensions of autism may interact to contextualise a heightened propensity for moral distress
24 in some people. The interaction between the five dimensions of autism and moral distress
25 are conceptualised in Figure 1.
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Insert Figure 1

1) *Need for order, rules, and facts*

As noted, Moral Foundation Theory (Haidt and Joseph, 2004) has been considered to provide
a rational, deliberate, and organised mechanism to consider moral right and wrong through
the application of rules and facts (Frederick, 2009). People with autism not only have a
heightened need for routines, order, and predictability in their physical environment (e.g.
objects or items, schedules, and places) but this need extends to other aspects of life,
including people, society, existential matters, and moral order in all its aspects. As a result,

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3 they may function at their best level when people act in predictable ways (Happe and Frith,
4 2006), when society is structured and organised in a way that is predictable and when
5 philosophically, they can find answers and explanations for unexplained or unpredictable
6 events. However, when changes to these occur this can cause extreme distress (Oomen *et*
7 *al.*, 2021).
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13 Thus, it is argued that people, social justice, and existential matters need to operate in an
14 orderly way, follow rules and be predictable. When they do not, intense discomfort and
15 distress may arise. This can make daily life a frequent source of stress as people do not always
16 act in such an orderly way nor are they highly consistent and predictable. When people in an
17 autistic person's private life or those in the public space break even minor rules (e.g. do not
18 do what they are expected to, act in irrational ways, are inconsistent or are hypocritical in
19 saying one thing and doing another), this can be experienced as an intense loss of order and
20 generate a visceral reaction. For example in their study Oomen *et al.* (2021) found that a
21 primary source of stress during COVID-19 for people with autism was anxiety that other
22 people would not adhere to the rules of social distancing. Furthermore, when others do not
23 adhere to 'rules' people with autism are also noted to perseverate (Hofvander *et al.*, 2009)
24 making it difficult to mentally abandon rumination about a transgression. For example, Huang
25 *et al.* (2012) found that drivers with autism were more rule-bound and less reckless but they
26 may also be prone to road rage due to intense frustration arising from an inability to regulate
27 the expected outcomes of others or the environment (Bedrossian, 2015). Furthermore
28 research shows that people with autism tend to respond more harshly than neurotypical
29 individuals to rule transgressions, regardless of whether the person they were interacting
30 with harmed them intentionally or by accident (Bellesi *et al.*, 2018). Thus, where moral
31 transgressions by others are a daily reality in all domains of life, moral distress may be a
32 frequent experience.
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50 Moral violations that come to torment autistic individuals can also include injustices carried
51 out towards others (e.g. people they know or victims of crimes or war on the news) as well as
52 those they become victim to (e.g. when treated unfairly or inconsistently by others in their
53 life). Furthermore, the need for rules and order impacts one's own behaviour and lifestyle.
54 For example, if they fear that they have broken social rules or done something wrong, they
55 may feel intense anxiety and may find themselves constantly analysing their own behaviour
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3 after the event and spotting their 'errors' (Black et al, 2023). This can lead to self-depreciation
4 and self-loathing as well as a heightened anticipatory fear of 'getting it wrong' and making
5 mistakes in any aspect of their life. In extreme cases or in even the least severe cases, the
6 person may also develop an anxiety about saying the wrong thing, violating others'
7 expectations and being criticised. This can underpin a hypersensitivity to criticism and
8 rejection, a state that is referred to as rejection sensitive dysphoria (RSD) in the ADHD field
9 (Bedrossian., 2021). RSD symptoms are associated with setting high standards which are hard
10 to meet, feelings of perceived failure when not meeting others' expectations,
11 embarrassment, anxiety, and thoughts about self-harm. Given ADHD is thought to be present
12 in 50-70% of people with autism (Hours *et al.*, 2022), RSD would also seem pertinent as a
13 potential vulnerability factor for moral distress.
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24 Thus it is proposed that this anticipatory fear of making an error (moral violation) may
25 heighten anxiety and this may be worsened in situations characterised by uncertainty around
26 rules. This is because people with autism may have a strict adherence to rules both moral or
27 conventional (Shulman *et al.*, 2012) and when this is combined with an intolerance for
28 uncertainty (IU) may result in negative reactions to uncertain events or situations (Petrolini
29 *et al.*, (2023). Furthermore, IU has been associated generally with mental health conditions
30 such as depression and eating disorders (Petrolini *et al.*, 2023). Thus uncertainty about social
31 rules and anxiety about violating them, could impact wellbeing in autistic individuals and one
32 way to understand this impact is by construing the anxiety in terms of moral distress.
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41 In addition, this could be exacerbated by some of the noted strengths people with autism may
42 have associated with their personality, such as being fair, authentic, reliable (Kirchner, 2016)
43 and loyal (Attwood, 2006). Kirchner (2016) found that people with autism rated their
44 strengths as being authenticity and fairness. When faced with others' or their own actual or
45 feared transgressions, self-valued rules around loyalty, fairness, reliability and authenticity
46 may be threatened. The impact on functioning, health and quality of life, should not be
47 underestimated. For example, research exploring the experiences of people with autism who
48 were victims of Intimate Partner Violence (where their partner transgressed the moral rules
49 of intimate relationships) found participants described feeling anger, shame, and confusion
50 at not realising what was happening to them at the time and that it took them longer to
51 process this (Pearson *et al.*, 2023) and led them to struggle to trust others. This may reflect
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3 the distress arising from psychologically critical rules of loyalty and fairness being broken by
4 those so integral to meeting one's heightened need for certainty.
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10 2) *Obsessionality, rigidity and pedantry*

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12 As well as the heightened need for rules and order, autism is associated with obsessionality,
13 rigidity, and pedantry (Russell et al., 2005). This means that not only are rules and order
14 needed but that rules need to be applied rigidly, at all times, to the letter and across all
15 aspects of life, without exemptions or flexibility. Hence this feature of autism interacts with
16 the previous feature, to widen the contexts for moral distress as well as increasing the
17 potential frequency of this. Social fidelity and loyalty may also be standards that are rigidly
18 applied to the self by autistic individuals (Attwood, 2006), who are prone to frequent analysis
19 of their own behaviour and to a sensitivity of being criticised due to a need to get things right.
20 For example, perfectionism and perseveration have been noted to cause strain and negative
21 outcomes in the workplace for people with autism (Jones, 2023) and this may extend to both
22 the individual's need to act in a perfect manner and also their desire for others to be perfect.
23 Many autistic individuals anecdotally report perfectionist, exacting standards. Oshima *et al.*,
24 (2015) found that people with autism scored significantly higher than neurotypical (NT)
25 controls for the schemas 'unrelenting standards' (the belief that they must personally strive
26 to meet very high internalised standards of behaviour) and 'hyper-criticalness' (the belief that
27 people should be harshly punished if they do not meet one's standards and expectations). In
28 addition, such maladaptive schemas are associated with mental disorders such as PTSD
29 (Oshima *et al.*, 2015).
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46 Hence, it is postulated that some people with autism may set themselves and others
47 extremely high (including moral) standards, which they are preoccupied with and applying
48 rigidly and to the letter. When they or others fall short of such standard, significant internal
49 angst and potential external conflict may arise, and impact their social and occupational
50 functioning. Such moral perfectionism may be borne out of neurocognitive styles associated
51 with autism but can impact all aspects of life and sensitise to even small moral transgressions
52 experienced in day-to-day life.
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60 3) *Pre-occupation, circumscribed interests, and repetition*

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3 Some people with autism may also be at a greater risk of experiencing moral distress because
4 of pre-occupation and perseverative interests which are known features of autism.
5 Collectively, they may create a tendency to obsessively and repetitively analyse and ruminate
6 over even minor errors committed by others or oneself and do so more so than non-autistic
7 populations (Gotham et al, 2014). Such errors may become the object of intense pre-
8 occupations and cognitive fixations that amount to repetitive rumination leading to
9 maladaptive brooding (Williams et al, 2021). In addition meta-cognitive models (thinking
10 about thinking) assume that an over-reliance on worry or inflexibility in this style of
11 responding to negative thoughts can lead to problems of emotional self-regulation (Wells,
12 2010) In addition, moral metacognition (thinking about thinking about morals) has been also
13 been shown to be mediated by emotions. For example, when an individual has high moral
14 principles but is emotionally balanced they are able to regulate their attitude and behaviour.
15 However, individuals with high moral principles and lower emotional regulation are more
16 likely to experience anxiety and discontent when faced with moral challenges (Negi et al,
17 2022).

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Rumination involves perseverative thoughts that revolve around a negative emotion or situation (Patel *et al*, 2017). These can also be involuntary mental processes and can consume cognitive resources (Nolen-Hoeksema, 2000) resulting in depression, anger, and aggression. People with autism have been found to have higher rates of anger rumination (Pugliese *et al.*, 2015) as well as sadness-focussed rumination (Crane *et al.*, 2013) resulting in increased depression (Gotham *et al*, 2014), anxiety and emotional dysregulation (Patel *et al.*, 2017).

Williams *et al.* (2021) also found that the depression symptoms in autistic adults were most strongly related to rumination about sadness and guilt (repetitively thinking about one's guilty feelings or criticizing themselves). Furthermore, Davidson *et al.* (2017) found that adults with autism traits showed greater levels of proneness to shame and externalising which is associated with blaming others, other-directed hostility, and displaced anger and aggression (Bear *et al.*, 2009; Tangney *et al.*, 2007). It is argued as a result that people with autism may have increased risk of maladjustment in relation to social relationships, interactions with co-workers, family, and friends (Davidson *et al.*, 2017) because others in their lives may find their intense and sustained focus on their errors and transgressions exhausting and upsetting and avoid them.

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3 In addition, rumination may also render some autistic individuals to be predisposed to hyper-
4 focussing and fixating on both minor and major moral transgressions in ways that can impede
5 their wellbeing, social and occupational functioning. According to Ashinoff and Abu-Akel
6 (2021) 'Hyperfocus' "is a phenomenon that reflects one's complete absorption in a task, to a
7 point where a person appears to completely ignore or 'tune out' everything else" (pp1). Thus
8 it is viewed as a factor which contributes to difficulties in switching attention. Furthermore,
9 rumination may also take the form of visual hyper-phantasia or a strong sensory/visual
10 memory of what they have seen or experienced. This can give rise to the strong encoding of
11 stressful events, including moral transgressions, and the replaying of these mental images in
12 one's mind after the event.
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16 It is argued that some people with autism may struggle to 'let go' of even minor transgressions
17 until they find a resolution or logic for it (that can restore rules and order), which can create
18 significant stress that is sustained by repetitive thinking and hyperfocus. Moral transgressions
19 by oneself or others may come to entail strong visual memories, that are replayed and
20 analysed in great detail for long periods. In instances where there is a perceived personal
21 moral failure, individuals may also present with a more obsessive type of rumination
22 consisting of intrusive thoughts and images of moral transgressions that they fear they may
23 commit in the future (e.g. violence). In such circumstances they may develop an obsessive-
24 compulsive ritualistic behaviour to reduce anxiety and the compulsion to carry out the
25 transgression (Zandt *et al.*, 2007). Intrusive thoughts about the transgression can exacerbate
26 guilt and shame, and in turn accentuate moral distress. To cope with moral threats, individuals
27 may adopt religious or morally themed rituals or an obsession with moral strictness that can
28 restore sense of order and safety. They may impose such compulsive moral standards on
29 themselves and others around them, fearing the moral threat could harm both parties if not
30 neutralised or compensated for. The individual may be seen as being morally scrupulous or
31 having a compulsive or perfectionist personality. Nevertheless, their moral anxiety may be
32 triggered by external events and social interactions.
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4) Social Communication/Interaction

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3 Some people with autism may also be at a greater risk of experiencing moral distress because
4 of social communication and interaction differences (Brothers, 1990). Research has shown
5 that adults with autism score lower than neurotypical [NT] adults on social cognition
6 (Morrison *et al.*, 2019) including the inference of other people's intentions and mental states
7 (Spek *et al.*, 2010) and identification of others emotions (Sasson *et al.*, 2016). Deficits in
8 Theory of Mind (ToM) may make it more difficult for people with autism to judge the
9 intentions of others who break moral rules. ToM includes the ability to read other people and
10 guess how they may feel or think when this is different from one's own mind state (Velikonja
11 *et al.*, 2019) and has been linked to moral decision making (Decety and Porges, 2011). As a
12 result of deficits in ToM, some autistic individuals may find others' rule-breaking behaviour
13 illogical and unpredictable as they cannot decode their intentionality. For example, research
14 has shown that people with autism judge accidental harms more harshly, arguably due to
15 their inability to form a robust representation of another person's benign intentions due to
16 ToM deficits (Leekham, 2016). It is hypothesized that this may be due to people with autism
17 having high levels of affective empathy resulting in high levels of empathic concern to protect
18 others and at the same time high appetitive motivation to prevent harm in others (Patil *et al.*,
19 2016). Furthermore, moral decision making has been noted to be more emotionally difficult
20 for people with autism due to high levels of personal distress (Patil *et al.*, 2016) and for people
21 with alexithymic traits this may be associated with a reduced cognitive understanding of
22 about other's internal states and a higher likelihood of adopting utilitarian responses in moral
23 dilemmas (Patil *et al.*, 2016).

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42 Some autistic individuals may also not intuitively recognise the needs, feelings and mental
43 states of others, who violate rules and hence may not recognise the reasons for their rule
44 violation. This could explain the research finding that moral reasoning is more likely to be
45 driven by outcomes of a decision rather than intention of the person making the decision in
46 people with autism (Koster-Hale *et al.*, 2013).

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52 Differences in social cognition also include autistic strength in processing explicit information,
53 such as the literal or direct meanings of others' behaviour and communication (Petrolini *et al.*,
54 2023). However, social rules are often implicit, leading autistic individuals to either
55 misread social rules or find them ambiguous, and to find others' behaviour unpredictable. The
56 ambiguity of people and the rules that govern their interactions can also heighten anxiety
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3 about one's own adherence to social rules in the absence of explicit social feedback from
4 others. Social interactions can be experienced as a frequent source of moral distress when
5 one finds themselves breaking rules they misread and when others break one's rules.
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9 Some individuals with autism opt to role learn and mimic mainstream social communication
10 and interaction behaviours in order to follow societal rules, and in doing so camouflage their
11 difference where they feel that such difference may break rules. Adults with higher self-
12 reported autistic traits report greater camouflaging efforts (Brown *et al.*, 2020) and self-
13 perceived camouflaging is associated with higher levels of psychological distress (Cook *et al.*,
14 2021). In terms of moral distress it is argued that camouflaging may be exhausting as it not
15 only requires energy but is itself predicated on a constant fear of breaking rules by revealing
16 oneself. Moral confusion can ensue as it often feels unfair to have to exert so much physical
17 and emotional resource to follow rules whilst moral conflict may be generated by feeling
18 deceptive by concealing the authentic self. For example, Kirchner (2016) found that people
19 with autism rated their strengths as including authenticity, and individuals who endorse the
20 character strength authenticity speak the truth and present themselves in a genuine way
21 (Harzer and Ruch, 2014).
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34 Nocon *et al.* (2022) also found that autistic adults most frequently reported the character
35 strengths of honesty and telling the truth and honesty was associated with life satisfaction
36 (Nocon *et al.*, 2022). In this respect, camouflaging may enable adherence to social rules
37 around behavioural norms, on the one hand, but threaten the self-valued rules of authenticity
38 and honesty, generating more conflict and distress. Furthermore, a strong sense of social
39 justice and fairness (Cope and Remington, 2022) are often reported to be critical rules that
40 autistic individuals value. Personality theory suggests that fairness consists of treating all
41 people the same according to principles of fairness and justice. Where such weight is placed
42 on the rule of social justice and fairness, moral distress may arise when this rule is violated by
43 others in the personal or public space. Social injustices in the home, social, school, or work
44 spaces, as well as those more systematically reflected in society or the political world, may
45 therefore create intense stress, in terms of both their commission by others and one's own
46 passive bystander role in them.
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58 Overall, social behaviour is not wholly governed by the moral logic, rigid fidelity to rules,
59 absolutist justice, consistent application of fairness, or explicit codes of conduct, that are
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3 strongly needed and salient to some autistic individuals. Instead, social behaviours and indeed
4 their expected endorsement may be driven by implicit social power dynamics, unspoken self-
5 interest of the social actors and institutions, and emotional dynamics. Morality is often
6 tapered by social politics and applied differently based on power and interest, and social
7 morality is rarely absolute or static. Implicit contexts for morality may not only be
8 unrecognised by autistic individuals if not made explicit but may also seem illogical and unjust
9 once recognised. Social injustice and inequality, hypocrisy and double standards, and social
10 expectations that seem unfair, may all generate particularly high angst in some autistic
11 individuals. Some may rebel against or withdraw from mainstream social life, adopt
12 alternative or fringe identities or else settle for minimal, superficial relationships, in order to
13 avoid infidelity and immorality, leading to loneliness and isolation. It is postulated that people
14 with autism may be more prone to moral distress due to their social interaction and
15 communication styles that are rule driven, making the implicit socio-moral world around
16 them psychologically distressed. Social and moral cognition differences are key to
17 understanding how autism may heighten propensity for moral distress, as autism is a
18 neurocognitive difference.

32 33 34 35 36 5) Cognitive Styles

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38 Though not diagnostic criteria in themselves, several neurocognitive styles, or ways in which
39 the mind processes and organises information, have been associated with autism by research.
40 There are variations of such neurocognitive styles across the autistic population and some
41 styles may pertain more to some individuals than others. These neurocognitive styles are
42 relevant to understanding how moral cognition (moral reasoning, appraisals, and decision-
43 making) may operate and are likely to underpin why some autistic individuals may have a
44 heightened need for moral absolutes and rigid adherence to categorical moral rules.

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51 Cognitive flexibility refers to the ability to switch between different task demands and
52 requires monitoring the environment to realize that an on-going rule is no longer valid,
53 inhibiting previous responses, finding, and shifting toward a new rule, and finally maintaining
54 the new on-going rule (Latinus *et al.*, 2019). Difficulties in switching rules have been linked
55 with perseveration (Landry and Al-Taie., 2016). Furthermore, it has been argued that
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3 difficulties in switching for some people with autism are exacerbated by deficits in the
4 processing of socio-emotional stimuli which requires processing of subtle social inputs as well
5 as the rapid processing of multi-sensory aspects of the environment (Latinus *et al.*, 2019).
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9 In terms of morals, research has found that some people with autism are stricter than non-
10 autistic people when it comes to tolerating exceptions to rules (Shulmam *et al.*, 2012) due to
11 cognitive inflexibility and this has been associated with co-occurring mental health difficulties
12 (Hollocks *et al.*, 2022). Thus, it is argued that when two moral decisions appear to contradict
13 each other, and additional layers of moral decision-making are required to navigate complex
14 and abstract decision-making, this may be more difficult for people with autism to achieve
15 due to cognitive inflexibility. This may also be worsened by a heightened level of processing
16 of fine detail (local coherence) and a diminished level of processing of the bigger picture
17 (central coherence) (Happe and Frith, 2021) or abstract context (social imagination and
18 context blindness). One implication of this is that social or moral rules may be followed to the
19 letter and even minor violations may trigger stress or anxiety. Thus a 'micro-morality' can
20 make everyday life full of morally injurious events and lead to significant distress at others'
21 micro-transgressions and worrying about one's own. Every aspect of life that deviates from
22 moral order and expected rules may be salient even if it is inconsequential in the bigger
23 scheme of things.
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37 Research has also indicated that autistic individuals may have stronger 'systemizing' and
38 weaker 'empathising' abilities than neurotypical individuals. Empathizing-Systemizing (E-S)
39 theory (Baron-Cohen *et al.*, 2003) proposes that people make social decisions by adopting a
40 preference for either empathizing or systemizing. Systemizing refers to the attempt to predict
41 and control phenomena through the application of rules, laws, and determinism (Baron-
42 Cohen, 2009). Empathising is the ability to process implicit emotional and social cues. As a
43 result of this profile, it is postulated that some people with autism are more likely to adopt
44 rules-based moral decision-making as opposed to decision making based on emotions
45 (Ringshaw *et al.*, 2021). For example, they may base their moral reasoning on facts, details,
46 patterns (e.g. comparing and contrasting behaviours across and within people). This could
47 explain why they show a preference for absolutist rules, categorical justice, and moral purity
48 and why a small detailed transgression or inconsistency in the moral pattern may have strong
49 salience. Studies of people with autism have shown more concrete moral reasoning and
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3 inflexibility in rule-based decisions (Shulman *et al.*, 2012). Thus, they may overlook emotional
4 and social reasons for rule violations and the wider social contextual variations in how
5 morality is applied and moral transgressions evaluated. By contrast, it has been suggested
6 that people with autism might be over-reliant on information about action outcomes
7 compared to other factors (such as the agent's mental states) when judging moral
8 transgressions (Margoni and Surian, 2016).
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17 **Individual Differences, Heterogeneity & Complexity of Autism & Moral Distress/Injury**

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20 Whilst the current paper seeks to develop the clinical nuance of our understanding of autism
21 and moral distress or injury, it is important to emphasise both the complexity and
22 heterogeneity of profiles associated with autism, as well as the complexity of moral decision-
23 making and experiences. Moral decision making and experiences in autism are complex and
24 involve an interplay between cognitive and affective components. Research in this area
25 continues to evolve, generating variable findings depending on the measures of autism,
26 samples, and moral-judgement related tasks used. For example, Zalla *et al* (2011) found that
27 whilst individuals with high functioning autism judged moral transgressions of different types
28 more seriously than their neurotypical comparators, they showed more specific impairments,
29 concluding that an impaired cognitive appraisal system renders autistic individuals highly
30 responsive to rule violations but less aware of the violator's intentions and the affective
31 impact of their actions.
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42 Moran *et al* (2011) similarly found that accidental and intentional violations were judged
43 similarly by individuals with high functioning autism, suggesting the focus of moral reasoning
44 was on the rules broken rather than the intention of those who broke them. Patil *et al* (2016)
45 noted however, that moral decisions themselves were unimpaired and were experienced as
46 emotionally arousing in autistic individuals as they were in neurotypicals. However, they
47 found that different features of autism played different roles in the decisional outcomes. For
48 example, mutually conflicting decision-making biases associated with two features of autism,
49 namely increased personal distress associated with social situations and alexithymia,
50 effectively compensate for one another, leading to a normal or rather neurotypical pattern of
51 moral judgements in spite of social cognition and emotional processing differences. They also
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3 found that intellectual learning can compensate for socio-affective differences arising from
4 autism, resulting in normal, advanced moral decision-making in autism.
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7 Clarkson et al (2023), however, highlighted the impact of the degree of autism on moral
8 decision-making, reporting atypical patterns of moral judgement to be exhibited by
9 individuals with higher levels of autistic traits. Labusch et al (2024) reported that whilst
10 autistic individuals endorsed the propriety of utilitarian judgements more than neurotypicals,
11 they felt less calm, suggesting a complex cognitive and emotional interplay involved in moral
12 judgments of autistic individuals. There was further complexity indicated by age-related
13 changes in moral decision-making, which were found in both autistic and neurotypical
14 individuals, albeit found to be more gradual in the autistic group.
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23 It is beyond the scope of the current review to capture the wider complexity of the literature
24 on moral reasoning and autism, but the current illustrative examples simply serve to highlight
25 the likely complexity and heterogeneity of moral experiences, and by implication moral
26 distress and the factors that cause it, in autistic individuals. In practice, this points to the need
27 for individual formulation of the multitude of factors that could interact to make some moral
28 experiences distressing in autistic individuals, and to address those idiosyncratic needs in
29 therapy where such moral distress is impacting mental health. It is important to move away
30 from stereotypical notions of autism that depict inferior socio-moral understanding and
31 associated emotional reactions, and to recognise the complex moral experiences and
32 decisions of autistic individuals and the significant psychological impact these may have on
33 their mental health. The current paper seeks to identify a number of features of autism which
34 could heighten the vulnerability to moral distress, complimenting the growing research on
35 autism and moral experiences and decision-making, and informing practice.
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50 **Conclusion**

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52 As the aforementioned discussion highlights, individuals with autism may have
53 neurocognitive styles that create a hyper-morality, a heightened sensitivity to right and
54 wrong, and an acute sense of social justice and conceptual empathy for others. They apply
55 such hyper-morality and over-critical reasoning to their own behaviour as much as they do to
56 that of others and may be as tormented by their own moral and social errors as they are
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3 others' moral transgressions. It is important to challenge lay assumptions about autistic moral
4 reasoning in order to ensure that false assumptions are dispelled and that autistic individuals'
5 susceptibility to moral distress and moral injury is fully understood.
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9 It can be hypothesised that some autistic individuals may be more susceptible to moral
10 distress if their traits make them more sensitised to moral violations of a smaller degree, on
11 a more regular basis, for longer periods, with stronger bio-psycho-social responses to such
12 moral violations.
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17 In a digital age that exposes us to constant news of moral transgressions and places constant
18 demands to navigate online social communications and interactions, anxiety about others
19 and oneself breaking moral rules may be accentuated and become generalised. Thus, some
20 autistic individuals may experience greater and more frequent social, emotional, and
21 existential conflict when faced with others' or their own rule violations, with such conflict
22 triggering a visceral response that has strong physiological, emotional, cognitive and
23 behavioural correlates. They may be less easily able to dismiss, neutralise or over-ride their
24 experiences of moral outrage, moral anxiety, or existential discomfort, and as a result such
25 experiences may be more subjectively intense, protracted, intrusive and impactful on their
26 lives.
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36 In individuals with a lower threshold for moral distress even the normal moral imperfections
37 of everyday life may expose them to frequent and protracted morally injurious experiences,
38 including within their family and friendship groups, in the education and workplace, and in
39 their engagement with the wider socio-political context. They and others may simply come to
40 expect that hyper-morality and oversensitivity to wrongs is part and parcel of their personality
41 and socio-moral functioning and indeed this should not be pathologized and may afford them
42 personal integrity and strength of character. However, where mental health becomes
43 impacted by such hyper-morality, consideration needs to be given to not only the mental
44 health outcome but its aetiology. Understanding such aetiology and devising treatment, both
45 rely on an understanding of the earlier mentioned features of autism and how they intersect
46 with morality.
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56 As has been noted, moral distress may present in the form of: severe generalised or social
57 anxiety; impaired daily functioning; social withdrawal; low self-esteem; negative self-
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3 reprimand; worthlessness; chronic and intense guilt; anger; agitation; restlessness; irritability;
4 fatigue; burnout; repetitive negative rumination; lack of trust and depressive-like symptoms.
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6 In addition, for people with cumulative moral distress or cumulative moral residue this may
7 lead to a crescendo effect and increase the potential for moral injury. Thus, in some cases if
8 intense and prolonged moral distress continues and is unaddressed, this may increase the risk
9 of moral injury for some autistic people providing a context for emotions such as anxiety,
10 depression, guilt, anger and even suicidality. For some people with autism moral injury may
11 also contribute to the presence of repetitive intrusive images and physiological and sensory
12 re-experiencing of morally injurious events, and difficulty adjusting to life after a moral
13 transgression (by self or others) may occur. This can appear as a reactive stress response and
14 indeed it may well be, but the moral distress itself may be its antecedent and maintaining
15 factor.
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19 It should also be noted that during periods of anxiety people with autism may engage in an
20 increased intensity and/or frequency of (Sellick *et al.*, 2021) compulsive, repetitive, and
21 prolonged rituals, routines and repetitive rumination or intense pre-occupation. Hence, this
22 should also be considered as a potential indicator of moral distress. Furthermore, when
23 anxiety about transgressions or distress arising from it feel intolerable leading to moral injury,
24 people may also adopt alternative means of coping such as alcohol/substances misuse and/or
25 self-harm as a form of self-soothing and relief. However, self-harm and suicidality may also
26 be adopted as a form of moral reparation. In cases where the distress and anxiety of one's
27 own or others' transgressions feels intolerable and unresolvable, suicidality may follow.
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31 Rumination has been found to significantly contribute towards a risk of suicidal ideation in
32 people with autism (Arwert and Sizoo, 2020; South *et al.*, 2019) whereby it is suggested that
33 an increased tendency to perseverate on a particular train of thought or behaviour and
34 difficulty imagining alternatives could increase risk of feeling entrapped, with suicide
35 perceived as the only possible escape route (South *et al.*, 2019; Arwert and Sizoo, 2020).
36 Intense and prolonged rumination on moral transgression may also accentuate the moral
37 residue and crescendo effect for people with autism leading to an increased risk of moral
38 injury in comparison to people without autism exposed to the same stimulus. Thus the
39 potential for moral distress and moral injury needs to be considered when assessing risk to
40 self in autistic individuals.
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3 All the aforementioned symptomatology is common across many mental illnesses and indeed
4 may be reported by many autistic individuals, however recognising its distinct aetiology
5 where it arises secondary to moral distress in autistic individuals, is key to devising effective
6 treatment. Hence, the underlying morally distressing mechanisms need to be detected,
7 alongside the outward symptomatology. Potential ways in which this may be achieved for
8 people with autism are made subsequently although it should be noted these are based on
9 tentative hypotheses as empirical research exploring the mechanisms underlying moral
10 distress and injury in autistic populations is yet to be established.
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21 **Recommendations**

- 23 • **Formulation:** Clinicians are advised to consider how both moral events and autistic
24 needs and features can interact to shape antecedents, behaviours and consequences
25 associated with moral distress and in some instances injury. At least 5 features of
26 autism may be considered when formulating the triggers and maintaining factors for
27 moral distress. Where such distress has led to moral injury and adverse mental health
28 sequelae, clinical formulations of the presenting mental health challenges could
29 consider the intersections between features of autism, moral distress and mental
30 health.
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- 33 • **Strategies to Enhance Resilience:** Moral transgressions may be an inevitable part of
34 personal and public life, with either direct or vicarious experience (e.g. through
35 watching/reading the news) to others' moral transgressions. Where it is not realistic
36 to reduce the moral events that trigger moral distress, autistic individuals may be
37 supported to manage the way in which they process the events that triggered such
38 experiences. Ways to intellectually process moral transgressions, others' motivations
39 for them, own practical inability to prevent all transgressions and the statistical
40 probabilities of such events as part of a predictable model of human behaviour, may
41 allow autistic individuals to use their systemizing ability to restore a sense of order.
42 This will enable the use of autistic strengths and natural styles of thinking as natural
43 sources of resilience, to develop psychological tolerance for moral imperfections that
44 the individual has little control over and to reduce their distressing effects.
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- **Psychological Therapies:** Therapy may include a focus on expanding predictive models of morality to allow more variations and margins of moral errors, in order to render moral and immoral behaviours all predictable and hence tolerable. The autistic individual cannot simply alter the way they process and organise the world, and nor should this be a target of treatment. Instead, the information they process can be developed, in order to best meet their needs. For example, rather than such treatments as CBT seeking to reduce an autistic individual's need for rules and moral logic, instead the rules and logic themselves can be developed to incorporate moral variability and rationales for moral transgressions. This can turn autistic features from vulnerabilities to sources of resilience against moral distress. Autistic features can be harnessed as sources of resilience against moral distress and indeed such features as systemizing, need for rules/logic and explicit social information processing can alter cognitive, emotional, and physiological responses to moral transgressions, rather than needing (or even being able) to cognitively restructure or change one's way of emotionally or socially dealing with the world. Where rumination is a primary driving factor for moral injury therapeutic interventions such as mindfulness could be utilised in improving a broad range of symptoms (Patel *et al.*, 2017). For example, mindfulness has been shown to reduce both rumination and mood symptoms in a pilot study of adults with autism (Spek *et al.*, 2013). Such interventions could also include the use of mindfulness soothing (sensory-motor and other forms of soothing) and cognitive diversion techniques to assist in reducing the intensity and duration of pre-occupation with and rumination on moral transgressions when they arise. Finally, for clients who are prone to moral distress and injury as a result of perfectionism and rumination, Radically Open Dialectical Behaviour Therapy (RO-DBT) could be considered as an area for future investigation. This has been developed as an adapted form of DBT to directly target over-control. The therapy introduces strategies to improve social connectedness and intimacy and to reduce social isolation by improving emotional expression and the ability to respond more flexibly. Early indications are that autistic individuals who completed RO-DBT had significantly better outcomes post treatment (Cornwall *et al.*, 2021). Thus, future consideration could be given to investigating the efficacy of adopting RO-DBT for clients who are prone to moral distress as a result of perfectionism and rumination.

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- **Lifestyle Coaching:** Reducing the likelihood of exposure to moral transgressions may also be viable in some instances. This can include selecting more predictable and morally compliant social circles, tasks, and ways of life, and accessing rules and routines (e.g. policies, procedures and laws) that can assist to restore moral order. Routines can also be designed to reduce exposure to information on moral transgressions (e.g. schedule limited periods of online activity, to reduce doomscrolling and exposure to news of moral transgressions). Furthermore, communication and problem analysis skills that enable the autistic individual to better analyse others' complex intentions and moral behaviour may be helpful. This can include developing scripts to ask others about their needs and intentions, developing hypotheses about when and why others may breach expectations and moral codes.
 - **Self-Help:** When an autistic individual feels that they have broken rules in ways that cause them distress, they can be supported to identify and communicate their own needs (e.g. for rules, and guilt arising from rule violation). Where an individual has engaged in self-transgression of their own moral codes, they could benefit from approaches which teach self-forgiveness, acceptance, self-compassion, and (if possible) making amends using therapies such as Acceptance and Commitment Therapy (ACT) (Williamson *et al.*, 2021).
 - **Mental Health Services for Trauma:** As noted by Williamson *et al.* (2021) treating people whose mental health problems are caused by moral injuries can be challenging for clinicians. This is because trauma based interventions such as exposure-based approaches could worsen symptoms of shame and guilt. In addition CBT based interventions which seek to target cognitions (thoughts) could also be unhelpful as the moral thinking may not be distorted or pathological and hence does not require re-appraising. Rather the aspect of treatment that may be required would be coming to terms with the shame and guilt that arises from a personal transgression or the lack of trust and anger which may occur as a result of others' transgressions. Clinicians supporting people with moral distress should do so sensitively as this is likely to be linked to shame and guilt (Williamson *et al.*, 2021).
 - **Cultural Support:** In instances where the effects of moral distress extend beyond psychological to spiritual harms (e.g. chronic guilt and obsessionality that operate in

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3 the context of religious beliefs and behaviours), it may be appropriate for spiritual care
4 providers to play a role alongside mental health clinicians (Williamson *et al.*, 2021) to
5 ensure the individual engaging in mental health services can be supported within their
6 own preferred spiritual and cultural frame of reference. When appraising moral
7 distress in autistic individuals it is important to consider their social and cultural norms
8 and assist them to alleviate negative impacts of moral distress in ways that maintain
9 fidelity to the norms they choose to live by, be they religious, societal, or family norms.
10 Autistic individuals may also benefit from support to decode more implicit moral and
11 social codes (e.g. the unwritten social contextual expectations and assumptions when
12 exposed to new social, cultural, or occupational groups).

- 21 • **Strengths Philosophy & Systemic Moral Health:** the role of moral experiences in
22 shaping wellbeing may be important to address when working with autistic
23 individuals, where susceptibility to moral distress and injury may necessitate clinical
24 or wider support. Nevertheless, it is important to emphasise that such a susceptibility
25 may arise from autistic strengths rather than impairments. It is important to adopt a
26 strengths-based philosophy when addressing moral distress and injury, and to nurture
27 and celebrate the moral rigour and conscientiousness displayed by many autistic
28 individuals. At the philosophical level, it is incumbent on society to strive to become
29 more morally diligent, rather than for autistic individuals to become less morally
30 exacting. The current paper has focussed solely on clinical perspectives on how to
31 understand and support autistic individuals' experience of moral distress and injury,
32 due to its very specific clinical aims. That is not to underplay the importance of
33 societal, systemic approaches to reducing moral injury by strengthening the moral
34 strengths of all social structures within which autistic and non-autistic individuals live.
35 Whilst beyond the scope of the current paper to address, improved societal moral
36 health is the broader context in which moral distress and injury can be reduced.
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52 **Author Biography**

53 **INSERT for Publication**

54 **References**

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1
2
3 Arwert, T.G. and Sizoo, B.B., 2020. Self-reported suicidality in male and female adults with
4 autism spectrum disorders: rumination and self-esteem. *Journal of autism and developmental*
5 *disorders*, 50(10), pp.3598-3605.

6
7 Ashinoff, B.K. and Abu-Akel, A., 2021. Hyperfocus: The forgotten frontier of attention.
8 *Psychological Research*, 85(1), pp.1-19.

9
10 Asken, M.J., Grossman, D. and Christensen, L.W., 2007. American Psychiatric Association.
11 Diagnostic and Statistical Manual of Mental Disorders. Arlington, VA: American Psychiatric
12 Pub-lishing, 2013. Archibald, Herbert C., and Read D. Tuddenham. "Persistent Stress Reac-tion
13 after Combat: A 20-Year Follow-Up." *Archives of General Psy. Therapy*, 45(10), pp.2317-25.
14
15

16
17 Attwood, A., 2006. *The complete guide to Asperger's syndrome*. Jessica Kingsley Publishers.

18
19 Baron-Cohen, S., Richler, J., Bisarya, D., Gurunathan, N. and Wheelwright, S., 2003. The
20 systemizing quotient: an investigation of adults with Asperger syndrome or high-functioning
21 autism, and normal sex differences. *Philosophical Transactions of the Royal Society of London.*
22 *Series B: Biological Sciences*, 358(1430), pp.361-374.
23
24

25
26 Bellesi, G., Vyas, K., Jameel, L. and Channon, S., 2018. Moral reasoning about everyday
27 situations in adults with autism spectrum disorder. *Research in Autism Spectrum Disorders*,
28 52, pp.1-11.
29

30
31 Bedrossian, L., 2015. Understand autism meltdowns and share strategies to minimize,
32 manage occurrences. *Disability Compliance for Higher Education*, 20(7), pp.6-6.
33

34
35 Bellesi, G., Vyas, K., Jameel, L. and Channon, S., 2018. Moral reasoning about everyday
36 situations in adults with autism spectrum disorder. *Research in Autism Spectrum Disorders*,
37 52, pp.1-11.
38

39
40 Bryan, C. J., Bryan, A. O., Anestis, M. D., Anestis, J. C., Green, B. A., Etienne, N., . . . Ray-
41 Sannerud, B. (2016). Measuring moral injury: Psychometric properties of the Moral Injury
42 Events Scale in two military samples. *Assessment*, 23, 557-570.
43 <https://doi.org/10.1177/1073191115590855>
44

45
46 Čartolovni, A., Stolt, M., Scott, P.A. and Suhonen, R., 2021. Moral injury in healthcare
47 professionals: A scoping review and discussion. *Nursing ethics*, 28(5), pp.590-602.
48

49
50 Clarkson, E, Jasper, J.D., Rose, J.P., Gaeth, G.J., & Levin, I.P. (2023). Increased levels of autistic
51 traits are associated with atypical moral judgments. *Acta Psychol (Amst)*, May, pp. 235-242.
52

53
54 Cook, J., Hull, L., Crane, L. and Mandy, W., 2021. Camouflaging in autism: A systematic review.
55 *Clinical Psychology Review*, 89, p.102080.

56
57 Cope, R. and Remington, A., 2022. The strengths and abilities of autistic people in the
58 workplace. *Autism in Adulthood*, 4(1), pp.22-31.
59
60

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51
52
53
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55
56
57
58
59
60

Cornwall, P.L., Simpson, S., Gibbs, C. and Morfee, V., 2021. Evaluation of radically open dialectical behaviour therapy in an adult community mental health team: effectiveness in people with autism spectrum disorders. *BJPsych Bulletin*, 45(3), pp.146-153.

Currier, J. M., Farnsworth, J. K., Drescher, K. D., McDermott, R. C., Sims, B. M., & Albright, D. L. (2017). Development and evaluation of the Expressions of Moral Injury Scale—Military Version. *Clinical Psychology & Psychotherapy*, 25, 474–488.

Davidson, D., Vanegas, S.B. and Hilvert, E., 2017. Proneness to self-conscious emotions in adults with and without autism traits. *Journal of autism and developmental disorders*, 47, pp.3392-3404.

Decety, J. and Porges, E.C., 2011. Imagining being the agent of actions that carry different moral consequences: an fMRI study. *Neuropsychologia*, 49(11), pp.2994-3001.

Farnsworth, J.K., Drescher, K.D., Evans, W. and Walser, R.D., 2017. A functional approach to understanding and treating military-related moral injury. *Journal of Contextual Behavioral Science*, 6(4), pp.391-397.

Frederick, R., 2009. What is commonsense morality?. *Think*, 8(23), pp.7-20.

Griffin BJ, Purcell N, Burkman K, et al. Moral injury: an integrative review. *J Trauma Stress* 2019; 32(3): 350–362.

Haidt, J. (2001). The emotional dog and its rational tail: A social intuitionist approach to moral judgment. *Psychological Review*, 108(4), 814–834.

Haidt, J. (2013). Moral psychology for the twenty-first century. *Journal of Moral Education*, 42(3), 281–297.

Haidt, J., & Joseph, C. (2011). How moral foundations theory succeeded in building on sand: A response to Suhler and Churchland. *Journal of Cognitive Neuroscience*, 23(9), 2117-2122.

Happé, F. and Frith, U., 2006. The weak coherence account: detail-focused cognitive style in autism spectrum disorders. *Journal of autism and developmental disorders*, 36(1), pp.5-25.

Harzer, C. and Ruch, W., 2014. The role of character strengths for task performance, job dedication, interpersonal facilitation, and organizational support. *Human Performance*, 27(3), pp.183-205.

Henritze, E., Goldman, S., Simon, S. and Brown, A.D., 2023. Moral injury as an inclusive mental health framework for addressing climate change distress and promoting justice-oriented care. *The Lancet Planetary Health*, 7(3), pp.e238-e241.

Hofvander, B., Delorme, R., Chaste, P., Nydén, A., Wentz, E., Ståhlberg, O., Herbrecht, E., Stopin, A., Anckarsäter, H., Gillberg, C. and Råstam, M., 2009. Psychiatric and psychosocial problems in adults with normal-intelligence autism spectrum disorders. *BMC psychiatry*, 9(1), pp.1-9.

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52
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57
58
59
60

Hollocks, M.J., Charman, T., Baird, G., Lord, C., Pickles, A. and Simonoff, E., 2022. Exploring the impact of adolescent cognitive inflexibility on emotional and behavioural problems experienced by autistic adults. *Autism*, 26(5), pp.1229-1241.

Hours, C., Recasens, C. and Baleyte, J.M., 2022. ASD and ADHD comorbidity: what are we talking about?. *Frontiers in Psychiatry*, 13, p.154.

Huang, P., Kao, T., Curry, A.E. and Durbin, D.R., 2012. Factors associated with driving in teens with autism spectrum disorders. *Journal of Developmental & Behavioral Pediatrics*, 33(1), pp.70-74.

Jones, S.C., 2023. Autistics working in academia: What are the barriers and facilitators?. *Autism*, 27(3), pp.822-831.

Kirchner, J., Ruch, W. and Dziobek, I., 2016. Brief report: Character strengths in adults with autism spectrum disorder without intellectual impairment. *Journal of Autism and Developmental Disorders*, 46, pp.3330-3337.

Koster-Hale, J. and Saxe, R., 2013. Theory of mind: a neural prediction problem. *Neuron*, 79(5), pp.836-848.

Labusch, M., Perea, M., Sahuquillo-Leal, R., Bofill-Moscardo, I., Carrasco-Tornero, A., Canada-Perez, A. & Garcia-Blanco, A. (2024). Development of Moral Judgments in Impersonal and Personal Dilemmas in Autistic Spectrum Disorders from Childhood to Late Adolescence. *Journal of Autism & Developmental Disorders*, 54, pp. 691–703.

Latinus, M., Cléry, H., Andersson, F., Bonnet-Brilhault, F., Fonlupt, P. and Gomot, M., 2019. Inflexibility in Autism Spectrum Disorder: Need for certainty and atypical emotion processing share the blame. *Brain and cognition*, 136, pp.103599.

Leekam, S. Social cognitive impairment and autism: what are we trying to explain? *Philos. Trans. R. Soc. Lond. B. Biol. Sci.* **371**, 20150082 (2016).

Limone, P., & Toto, G. A. (2022). Origin and development of moral sense: a systematic review. *Frontiers in Psychology*, 13, 887537.

Litz, B.T. and Kerig, P.K., 2019. Introduction to the special issue on moral injury: Conceptual challenges, methodological issues, and clinical applications. *Journal of Traumatic Stress*, 32(3), pp.341-349.

Litz, B. T., Stein, N., Delaney, E., Lebowitz, L., Nash, W. P., Silva, C., & Maguen, S. (2009). Moral injury and moral repair in war veterans: A preliminary model and intervention strategy. *Clinical Psychology Review*, 29, pp.695–706.

1
2
3 Margoni, F. and Surian, L., 2016. Mental state understanding and moral judgment in children
4 with autistic spectrum disorder. *Frontiers in Psychology*, 7, p.1478.

5
6
7 Moran, J., Young, L.L., Saxe, R., Lee, S.M., O'Young, D., Mavros, P.L. & Garbrieli, J.D. (2011).
8 **Impaired Theory of Mind for Moral Judgment in High-Functioning Autism.** *Psychological and*
9 *Cognitive Sciences*, 108 (7), pp.2688-2692.

10
11
12 Morrison, K.E., DeBrabander, K.M., Faso, D.J. and Sasson, N.J., 2019. Variability in first
13 impressions of autistic adults made by neurotypical raters is driven more by characteristics of
14 the rater than by characteristics of autistic adults. *Autism*, 23(7), pp.1817-1829.

15
16
17 Negi, S. K., Rajkumari, Y., & Rana, M. (2022). A deep dive into metacognition: Insightful tool
18 for moral reasoning and emotional maturity. *Neuroscience Informatics*, 2(4), 100096.

19
20
21 Nocon, A.S., Roestorf, A. and Menéndez, L.M.G., 2022. Positive psychology in neurodiversity:
22 An investigation of character strengths in autistic adults in the United Kingdom in a
23 community setting. *Research in Autism Spectrum Disorders*, 99, p.102071.

24
25
26 Oomen, D., Nijhof, A.D. and Wiersema, J.R., 2021. The psychological impact of the COVID-19
27 pandemic on adults with autism: a survey study across three countries. *Molecular Autism*, 12,
28 pp.1-21.

29
30
31 Oshima, F., Iwasa, K., Nishinaka, H. and Shimizu, E., 2015. Early maladaptive schemas and
32 autism spectrum disorder in adults. *Journal of Evidence-Based Psychotherapies*, 15(2), pp.191-
33 205.

34
35
36 Papazoglou, K. and Chopko, B., 2017. The role of moral suffering (moral distress and moral
37 injury) in police compassion fatigue and PTSD: An unexplored topic. *Frontiers in psychology*,
38 8, p.1999.

39
40
41 Patel, S., Day, T.N., Jones, N. and Mazefsky, C.A., 2017. Association between anger rumination
42 and autism symptom severity, depression symptoms, aggression, and general dysregulation
43 in adolescents with autism spectrum disorder. *Autism*, 21(2), pp.181-189.

44
45
46 Patil, I., Melsbach, J., & Hennig-Fast, K. (2016). Divergent roles of autistic and alexithymic
47 traits in utilitarian moral judgments in adults with autism. *Scientific Reports*, 6, Article Number
48 23637.

49
50
51 Pearson, A., Rose, K. and Rees, J., 2023. 'I felt like I deserved it because I was autistic':
52 Understanding the impact of interpersonal victimisation in the lives of autistic people. *Autism*,
53 27(2), pp.500-511.

54
55
56 Petrolini, V., Jorba, M. and Vicente, A., 2023. What does it take to be rigid? Reflections on the
57 notion of rigidity in autism. *Frontiers in Psychiatry*, 14, p.209.

58
59
60

1
2
3 Praslova, L. 2022. Moral Injury at Work and Neurodiversity: Are there Additional Risk Factors?
4 *Insights and White Papers, Feb 1, 2022.* [https://ca.specialisterne.com/moral-injury-at-work-](https://ca.specialisterne.com/moral-injury-at-work-and-neurodiversity-are-there-additional-risk-factors/)
5 [and-neurodiversity-are-there-additional-risk-factors/](https://ca.specialisterne.com/moral-injury-at-work-and-neurodiversity-are-there-additional-risk-factors/)
6
7

8 Pugliese, C.E., Fritz, M.S. and White, S.W., 2015. The role of anger rumination and autism
9 spectrum disorder–linked perseveration in the experience of aggression in the general
10 population. *Autism, 19*(6), pp.704-712.
11

12 Riedel, P.L., Kreh, A., Kulcar, V., Lieber, A. and Juen, B., 2022. A scoping review of moral
13 stressors, moral distress and moral injury in healthcare workers during COVID-19.
14 *International Journal of Environmental Research and Public Health, 19*(3), p.1666.
15
16

17 Russell, A.J., Mataix-Cols, D., Anson, M. & Murphy, D.G.M. (2005). Obsessions and
18 compulsions in Asperger syndrome and high-functioning autism. *British Journal of*
19 *Psychiatry, 186*, pp.525- 528.
20
21

22 Sasson, N.J., Pinkham, A.E., Weittenhiller, L.P., Faso, D.J. and Simpson, C., 2016. Context
23 effects on facial affect recognition in schizophrenia and autism: behavioral and eye-tracking
24 evidence. *Schizophrenia bulletin, 42*(3), pp.675-683.
25
26

27 Shay, J. (2014). Moral injury. *Psychoanalytic Psychology, 31*(2), 182–191.
28

29 Shulman, C., Guberman, A., Shiling, N. and Bauminger, N., 2012. Moral and social reasoning
30 in autism spectrum disorders. *Journal of autism and developmental disorders, 42*, pp.1364-
31 1376.
32
33

34 Silverman, H.J., Kheirbek, R.E., Moscou-Jackson, G. and Day, J., 2021. Moral distress in
35 nurses caring for patients with Covid-19. *Nursing Ethics, 28*(7-8), pp.1137-1164.
36
37

38 Singer, J., 2017. *NeuroDiversity: The birth of an idea.* np: Judy Singer.
39

40 South, M., Beck, J.S., Lundwall, R., Christensen, M., Cutrer, E.A., Gabrielsen, T.P., Cox, J.C. and
41 Lundwall, R.A., 2020. Unrelenting depression and suicidality in women with autistic traits.
42 *Journal of autism and developmental disorders, 50*, pp.3606-3619.
43
44

45 Steinmetz, S.E., Gray, M.J. and Clapp, J.D., 2019. Development and evaluation of the
46 perpetration-induced distress scale for measuring shame and guilt in civilian populations.
47 *Journal of Traumatic Stress, 32*(3), pp.437-447.
48
49

50 Ting, F., Dawkins, M. B., Stavans, M., & Baillargeon, R. (2020). Principles and concepts in
51 early moral cognition.
52

53 Vargas, A. F., Hanson, T., Kraus, D., Drescher, K., & Foy, D. (2013). Moral injury themes in
54 combat veterans' narrative responses from the National Vietnam Veterans' Readjustment
55 Study. *Traumatology, 19*, 243–250.
56
57
58
59
60

1
2
3 Velikonja, T., Fett, A.K. and Velthorst, E., 2019. Patterns of nonsocial and social cognitive
4 functioning in adults with autism spectrum disorder: A systematic review and meta-analysis.
5 *JAMA psychiatry*, 76(2), pp.135-151.
6

7
8 Williams, Z.J., McKenney, E.E. and Gotham, K.O., 2021. Investigating the structure of trait
9 rumination in autistic adults: A network analysis. *Autism*, 25(7), pp.2048-2063.
10

11
12 Williamson, V., Stevelink SAM and Greenberg N. Occupational moral injury and mental health:
13 systematic review and meta-analysis. *Br J Psychiatry* 2018; 212(6): 339–346.
14

15
16 Williamson, V., Murphy, D., Phelps, A., Forbes, D., & Greenberg, N. (2021). Moral injury: the
17 effect on mental health and implications for treatment. *Lancet Psychiatry. Jun; 8(6)*, pp.453-
18 455. doi: 10.1016/S2215-0366(21)00113-9. Epub 2021 Mar 17. PMID: 33743196.
19

20
21
22
23 Yeterian, J.D., Berke, D.S., Carney, J.R., McIntyre-Smith, A., St. Cyr, K., King, L., Kline, N.K.,
24 Phelps, A., Litz, B.T. and Moral Injury Outcomes Project Consortium, 2019. Defining and
25 measuring moral injury: Rationale, design, and preliminary findings from the moral injury
26 outcome scale consortium. *Journal of Traumatic Stress*, 32(3), pp.363-372.
27

28
29 Zalla, T., Barlassina, L., Buon, M., & Leboyer, M. (2011). Moral judgment in adults with autism
30 spectrum disorders. *Cognition, Oct;121(1)*, pp.115-26.
31

32
33 Zandt, F., Prior, M. and Kyrios, M., 2007. Repetitive behaviour in children with high
34 functioning autism and obsessive compulsive disorder. *Journal of autism and developmental*
35 *disorders*, 37, pp.251-259.
36

37
38 Zerach, G. and Levi-Belz, Y., 2021. Moral injury and mental health outcomes among Israeli
39 health and social care workers during the COVID-19 pandemic: A latent class analysis
40 approach. *European Journal of Psychotraumatology*, 12(1), p.1945749.
41
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Figure 1 – Proposed interaction between the five dimensions of Autism and Moral Injury

