

# Autism and Emotional Intelligence

Subjects: [Psychology](#) | [Management](#)

Contributor: Satoris S. Howes

Emotional intelligence is important within the workplace, as indicated by the multitude of positive workplace outcomes associated with heightened emotional intelligence. Research has demonstrated that many autistic individuals exhibit lower levels of trait emotional intelligence, potentially putting them at a disadvantage within the workplace. Examining emotional intelligence via its separate components, however, suggests autistic adults may not fare as poorly as trait-level research may indicate.

autism

emotional intelligence

employment considerations

## 1. Introduction

Social capital theory posits that strong interpersonal relationships are a valuable resource for employees <sup>[1]</sup>. In particular, the social capital that results from building and maintaining healthy relationships provides employees with access to valuable information and support that facilitates career development <sup>[1][2][3]</sup>. Thus, long-term success for employees within an organization is in part dependent on their networking skills, political acumen, and the ability to create strong interpersonal relationships.

Developing meaningful interpersonal relationships in the workplace, and ultimately achieving career success, is to some extent a function of one's emotional intelligence <sup>[4]</sup>. Emotional intelligence refers to skills "relevant to the accurate appraisal and expression of emotion in oneself and in others, the effective regulation of emotion in self and in others, and the use of feeling to motivate, plan, and achieve in one's life" <sup>[5]</sup> (p. 185). Thus, emotional intelligence encompasses the ability to successfully identify, generate, comprehend, and regulate emotions for use in communication, cognitive processes, and relationship building and maintenance <sup>[6]</sup>. These four abilities inform one another and in combination aid individuals in communicating with and building and maintaining relationships with others <sup>[7]</sup>.

Individuals with high emotional intelligence are more likely to embed themselves in and capitalize on the organization's social network due to their heightened awareness and understanding of the importance of emotions, as well as their ability to strategically use them in their communications and cognitions. Thus, greater emotional intelligence can help employees build a network of colleagues to which they can turn when needed <sup>[8]</sup>. In addition, beyond building and maintaining relationships, emotional intelligence is related to key workplace outcomes including higher leadership effectiveness <sup>[9][10][11]</sup>, salary levels <sup>[4]</sup>, job performance <sup>[12]</sup>, and work attitudes such that employees with higher emotional intelligence have higher job satisfaction, higher organizational commitment,

and lower turnover intentions [13]. Furthermore, they tend to engage in more organizational citizenship behaviors and fewer counterproductive work behaviors [14].

Given these findings, it is evident that individuals with lower levels of emotional intelligence are at a clear disadvantage within the workplace. Unfortunately, this includes many individuals with autism spectrum disorders. Autistic individuals often exhibit notable differences from their neurotypical counterparts in multiple areas, including cognitive, behavioral, emotional, and sensory domains [15]. Historically, differences in thinking and feeling, such as those seen in autistic individuals, have been viewed according to a medical/pathology model in which “deficits” exist and should be “fixed” [16]. Unfortunately, such views impact how society perceives individuals and contributes to stigmatization [17], in turn hindering development of self-efficacy and a healthy identity [18]. In contrast, the social model of disability [19] views disabilities as variation in functioning that reflect individual differences rather than deficits. For example, autism is not exclusively characterized by so-called deficits but also certain strengths that may positively impact overall functioning and life satisfaction [20][21] as well as serve as a benefit within the workplace [22]. This perspective considers individual differences as just that—differences, not deficits—and argues that the problem is not with the individual disability, but rather with society’s failures to accept the differences that are associated with the disabilities.

Despite the increased push to view autism from the social model lens [23], to date, most supportive interventions for autistic adults have had the goal of mitigating impairments (identified as such by researchers and/or clinicians) rather than empowering individuals and responsively addressing the needs of the autistic population [24]. This appears to be particularly true within the workplace, as stigma and stereotypes appear to be common among hiring agents [25]. Unfortunately, negative attitudes—whether conscious or unconscious, intentional or unintentional—can serve as barriers to employment for members of the autistic community [26]. Moreover, it is not just the negative stereotypes that are potentially problematic. It has also been argued that highlighting the strengths and capabilities for autistic individuals to underscore the “autistic advantage” may discount the heterogeneity of autism and cause support needs to be downplayed [27]. Even so-called strengths may be disadvantageous at times for autistic individuals, depending in part on the social environment, the individual’s expressive range, and their level of self-control [20].

To combat ignorance regarding attitudes and beliefs about disabilities in general, it is important to disseminate specific and purposeful information about the needs of individuals [28]. Through careful dissemination of evidence-based knowledge regarding autism, attitudes based on false information can be changed and an understanding of autism increased, thereby reducing misconceptions and mitigating potential interpersonal and communication challenges [29]. Along these lines, and in line with the social model of disability, contemporary organizational scholars have called for a more inclusive approach within the workplace that embraces neurodivergence rather than the enforcement of neurotypical preferences [30]. It is through autism education and enhanced awareness that more positive relationships between employers and autistic employees can develop [31]. Indeed, research has indicated that autistic adults have a strong chance of becoming and remaining employed once appropriate measures [25] are in place [22]. Given that neurodiversity is an important component of organizational diversity, which can aid in an organization’s sustainable competitive advantage (since diversity of thought, perspectives, and

abilities brings greater depth to an organization’s knowledge and skill base and its ability to meet client demands), efforts to change the social and emotional environment—rather than placing the onus for change on the autistic community—are a necessary and worthwhile endeavor. In order to provide such accommodations, however, managers must understand their employees’ strengths and needs related to their disability [32].

## 2. Autism and Emotional Intelligence

Emotional intelligence is important within the workplace, as indicated by the multitude of positive workplace outcomes associated with heightened emotional intelligence [9][10][11][12][13][14]. Unfortunately, not all individuals exhibit emotional intelligence to the same extent or to the extent that may be expected or desired within the workplace. In particular, researchers have reported significantly lower levels of trait emotional intelligence in autistic individuals [33][34].

### 2.1. Perceiving Emotions

The first of the four branches of emotional intelligence involves the ability to identify emotions in oneself (i.e., self-awareness) and in others. This includes being able to recognize and interpret the emotions that others project via their facial and postural expressions. As such, this facet reflects non-verbal perception and emotional expression using one’s face and voice [7]. Based on this definition, the additional search terms used for identification of studies regarding this facet of emotional intelligence included “perceived emotion”, “emotion awareness”, “emotion identification”, and “emotion recognition”.

#### 2.1.1. Perceiving Emotions in Oneself

Several reviews were located that addressed the first part of perceiving emotion—that of emotional self-awareness—with respect to autism. One qualitative review focused on the conceptualization, definition, and measurement of emotional self-awareness in autism [35], finding that emotional self-awareness is typically assessed via self-report and is inconsistently defined. Going beyond methodological considerations, a later meta-analytic review focused on group differences (autistic vs. non-autistic groups) in emotional self-awareness [36]. This research addressed concerns with previous meta-analyses on the same topic, e.g., [37] by examining emotional self-awareness across various measurement tools, rather than limiting the examination to specific scales (e.g., the Toronto Alexithymia Scale, TAS-20) [38]. After conducting a narrative synthesis of 47 papers and meta-analyzing 39 studies containing sufficient data for group comparisons, the researchers concluded that autistic adults appear to have poorer emotional self-awareness compared to their neurotypical counterparts [36]. Moreover, their results suggested that the differences appear to emerge during adolescence and increase with age, and further appear to be due to declining abilities for autistic individuals as opposed to increasing abilities for non-autistic people. Thus, these differences in emotional self-awareness do not appear to be inherent in autism, but rather emerge during adolescence and progressively worsen with age.

The implication of the extant findings with regard to emotional self-awareness in autism is that although this facet of emotional intelligence may not be different from neurotypical counterparts early in the lifespan of an autistic individual, it is likely to be meaningfully different by the time the person enters the workforce. This may create barriers for employees as the importance of successfully perceiving emotions is evidenced by findings that “emotion recognition ability,” or the ability to sense (and make sense of) another person’s emotions from one’s face and voice, is indirectly related to the annual income of employees across a broad range of jobs and organizations [39]. This said, the researchers of the afore-mentioned meta-analysis [36] cautioned that it remains unclear whether the apparent emotional self-awareness difficulties relate to autism itself, or instead to comorbid mental health problems (e.g., depression, anxiety) that have been shown to exist in this population [40]. Furthermore, they note that very few studies have examined emotional self-awareness beyond young adulthood, and therefore the developmental trajectory for adults later in life is unclear. As such, these areas are ripe for future research as they suggest potential avenues for minimizing emotional self-awareness difficulties for adults in the workforce (i.e., depression and anxiety management) and may facilitate work-related positive outcomes.

### 2.1.2. Perceiving Emotions in Others

Research on the second part of perceiving emotion—that of identifying emotions in others—with respect to autism has received far greater attention in the literature and as such has resulted in numerous systematic reviews to date [41][42][43][44][45][46]. Early meta-analytic reviews examined facial and body expressions [42] and facial expressions alone [43] and revealed less general emotion recognition for autistic individuals compared to neurotypical counterparts, with some emotions more severely exhibiting these differences (e.g., lower recognition of happiness in others, and more so for the recognition of fear [42]).

More recent meta-analytic reviews have expanded on this earlier work, addressing limitations with the original examinations and building on their findings. One review examined emotion recognition in autism across a variety of domains (e.g., human vs. nonhuman faces, speech prosody, music) as well as across both visual and auditory modalities [45]. This research, which synthesized data from 72 papers, concluded that autistic individuals demonstrate general emotion recognition deficits, with pronounced deficits for anger, fear, sadness, and the composite. Moreover, deficits consistently appeared for human faces but not for nonhuman faces (e.g., cartoons, caricatures), and deficits for speech prosody (i.e., the variations in pitch, loudness, rate, and rhythm of speech to convey emotions) and music appear to be specific to certain emotions, with anger, happiness, and disgust recognition being impaired for speech prosody and fear and sadness recognition impaired in music. Lastly, they found that impairments existed across emotions for verbal tasks but not for nonverbal tasks.

The second recent meta-analysis that similarly extended the earlier work examined the specificity of facial emotion recognition impairment and the role of task characteristics in facial emotion recognition for autistic individuals [46]. These authors qualitatively synthesized 148 studies and quantitatively synthesized 137 studies. Counter to earlier findings that some emotions exhibited greater deficit severity [42], this meta-analysis, which utilized approximately three-times as many studies in its analyses than did the early reviews, suggested that autism has nonselective facial emotion recognition impairment such that there is impairment for the recognition of all basic facial emotions,

which a particularly pronounced impairment in recognizing disgust (vs. happiness). They further found that these impairments are heightened for complex versus basic emotions, and performance is poorer when individuals are asked to process holistic versus feature-specific emotional expressions. Furthermore, impairments in facial recognition appeared to be present for both emotional and non-emotional facial attributes (e.g., gaze direction), suggesting that the emotion perception impairment may be a function of general facial perception impairments. Contrary to the other meta-analysis published in the same year [45], this research found that autistic individuals performed more poorly on nonverbal compared to verbal tasks. Thus, it would be prudent for researchers to further examine the impact of verbal versus nonverbal tasks with regard to emotion recognition to ascertain what, if anything, is occurring.

In addition to the plethora of research that has examined the extent to which emotion recognition is impaired in autistic individuals (of which, as noted, it appears is indeed the case), a large body of research exists examining why this is the case. One area that has been studied extensively is that of eye gaze, or the typical versus atypical eye tracking patterns and fixation tendencies when interpreting facial stimuli. Three systematic reviews of eye gaze in autistic individuals have been conducted to date [47][48][49], though only two involved adult samples [48][49]. The first of these was a systematic review of 54 articles, in which the researchers concluded that autistic adults tend to fixate less on the eyes of others and instead gaze away, regardless of the emotion being expressed, compared to their neurotypical counterparts [48]. When considering where autistic individuals' gaze averted to, this research suggested the findings are relatively mixed, with conflicting evidence of more or less fixation on the mouth or holistic faces. That said, there was relatively consistent evidence that autistic adults appear to focus less on the nose compared to non-autistic individuals. Interestingly, they also found that a number of studies found that anxiety impacted eye gaze, leading them to suggest that comorbid anxiety common with autism may be influencing the differences. Finally, these researchers also reviewed studies that examined electrical brain activity as measured from event related potentials (ERPs) gathered from electroencephalography (EEG) measures. The findings suggest that one particular ERP that occurs over the temporal–occipital areas (i.e., the N170) was consistently smaller, delayed, and slower for autistic (vs. non-autistic) individuals, reflecting altered function of early visual processing during facial emotion recognition.

Another avenue of research that has explored potential reasons for the impairments in emotion recognition for autistic individuals has focused on the various modalities (e.g., auditory vs. visual) and channels (e.g., facial expressions, speech prosody, gestures) through which emotions may be perceived. In a systematic review and meta-analysis of 23 papers examining affective prosody in autism [50], the researchers concluded that although studies seemed to suggest that autistic individuals experience difficulties in recognizing affective prosody, these differences appear to be largely due to publication bias and methodological decisions. As such, the authors suggest that the research in this area is insufficient at this time for drawing clear conclusions. Looking more broadly, in a scoping review focusing on the multichannel processing of emotion in autistic individuals [51], researchers qualitatively analyzed 21 studies and concluded that this area is largely under-researched with a wide variety of methodologies, limiting conclusions that can be drawn at this time. That said, this latter review found some relatively consistent findings, including that autistic individuals tend to over-rely on semantics rather than prosody to interpret multichannel emotions. In addition, it has been consistently found that when incongruent

emotional information co-occurs in different channels, it becomes more difficult for autistic individuals to process and interpret the emotions.

## 2.2. Facilitating Thought

The second branch of emotional intelligence, facilitating thought, entails the ability to use emotions to aid in cognitive processes. This involves having an awareness of how certain emotional states are associated with specific ways of thinking and using it to one's advantage [52]. Individuals high in this facet may understand that specific emotions are tied to particular motivations and judgments [53]. For example, anger increases perceptions of control [54] and sadness decreases perceived control [55]. Recognizing this, individuals high in emotional intelligence may decide, for example, to postpone potentially risky decisions when they are experiencing intense anger or sadness because their judgement may be skewed.

Several avenues of research are directly relevant for the facilitating thought facet. One area of relevance is that of theory of mind, which is concerned in part with one's ability to recognize and form correct inferences about others' dispositions, beliefs, intentions, and other mental states [56]. Similarly relevant are the areas of social and emotion cognition, which concerns how individuals process and respond to emotion-laden stimuli [57]. Given this, the additional search terms used to ensure identification of studies related to facilitating thought included "theory of mind", "social cognition", and "emotion cognition". The reviews that emerged with this search were primarily focused on mentalizing (i.e., perspective taking), cognitive processes (including cognitive ability and memory), and social and moral decision making. Each of these three areas will be presented in turn.

### 2.2.1. Mentalizing

A vast amount of research has been conducted on autism and mentalizing, a specific aspect of social cognition. Mentalizing, also called perspective taking, is one's ability to infer the mental states of others, such as their beliefs, thoughts, and emotions [58]. One early meta-analysis compared two different types of mentalizing tasks—cognitive-linguistic tests, which require respondents to infer a character's mental state based on verbal situational cues rather than literal information, and "Reading the Mind in the Eyes" tests (RMETs), which require individuals to recognize emotions and mental states in others from only their eyes [58]. This research, based on 37 studies, found substantial mentalizing impairments in autistic adults compared to neurotypical counterparts for both types of tests. In addition, there was some evidence that a greater percentage of males (vs. females) exhibited greater impairments in the cognitive-linguistic mentalizing tasks, though this was not consistent, and more research is recommended before clear conclusions can be drawn with respect to gender.

A more recent meta-analysis investigated mentalizing as assessed specifically with RMETs across numerous psychiatric disorders [59]. Although these researchers identified 54 studies for inclusion in their assessment, only five of the studies addressed mentalizing specifically for autistic individuals. That said, their results replicated the earlier meta-analysis such that autism was negatively correlated with RMET scores. Together, these two meta-analyses suggest consistent impairments for autistic individuals with respect to reflecting on and inferring the mental states of others.

Taking a slightly different perspective with regard to mentalizing, another group of researchers explored the distinction between inferring another's mental representation—traditional mentalizing—and detecting the extent to which a represented mental state of another person is matching or mismatching with one's own—what the authors termed mental conflict monitoring [60]. These authors systematically reviewed neuroimaging evidence from 51 studies that used a false belief paradigm (tasks that require participants to take the perspective of another person) to determine whether the brain regions that are activated better reflect mentalizing or mental conflict monitoring. Based on their findings, the researchers concluded that autistic individuals likely do not experience complete “mindblindness” (i.e., complete inability to mentalize or take another individuals' perspective). Rather, it is the relational aspect of social cognition that is problematic for autistic individuals such that they may be able to infer another's mental state but be unable (or impaired in their ability) to detect mental (mis)alignment with themselves. The researchers note that, because of this, autistic individuals will be impacted in their abilities to form strong relationships and navigate the social contexts in which they live. Additional research on this possibility that issues stem more from relational versus representational mentalizing is needed.

### 2.2.2. Cognitive Processes

The second area of research relevant to facilitating thought that has received considerable attention is that of cognitive processes. One systematic review and meta-analysis of 75 studies revealed consistent impairments in autistic individuals across all nonsocial and social cognitive domains compared with neurotypical counterparts [61]. For nonsocial cognition, the most pronounced impairment was that of processing speed, followed by verbal learning and memory, then reasoning and problem solving. The researchers further found that there were far fewer impairments with respect to attention and vigilance and working memory, though some deficits were still noted. As for social cognition, impairments were found for both theory of mind and emotion perception and processing.

A separate group of researchers took a narrower approach to cognitive processes and examined memory specifically. In their extensive review of nondeclarative, declarative, and working memory for autistic individuals, they shed additional light on how memory may differ for autistic individuals compared to their neurotypical counterparts [62]. Contrary to what the earlier assessment suggested, their review revealed that many aspects of memory for autistic adults are indeed intact. Namely, nondeclarative memories of nonsocial stimuli, immediate free recall of lists of unrelated items, cued recall, paired associate learning, and recognition all appear to be comparable to non-autistic individuals. Indeed, in some cases, it appears that autistic individuals may have superior memory abilities, whereby numerous studies have demonstrated superior recognition of nonsocial stimuli (e.g., of shapes and words) and digit span recall. It has been proposed that such superior performance may be due to a tendency for individuals to capitalize on their intact abilities to compensate for impaired facets, which include diminished memory for emotion- or person-related stimuli as well as for free recall of meaningful or structured stimuli. Unfortunately, as the authors emphasized, such compensation is likely arduous and stressful, and may result in as-yet unclear negative effects on brain development and behavior consequences.

In short, the findings surrounding cognitive processes for autistic adults suggest that cognitive processes themselves are likely not an issue, as there is as much evidence that many areas of cognition are not impaired and

may even be superior to some extent. Nevertheless, the relevance of cognitive processes for emotional intelligence are embodied in emotional and social cognitions, of which there was evidence of impairment. Specifically, autistic individuals appear to have diminished memory for emotion- or person-related stimuli as well impairments in social cognition (i.e., theory of mind and emotion perception and processing).

### 2.2.3. Social and Moral Decision Making

The final area of research concerns social and moral decision making. These are additional important aspects of social cognition and reflect the fact that human decisions are not made entirely rationally, but rather involve implicit, emotional elements [63]. Whereby moral reasoning helps guide behavior and facilitate relationships, it is therefore relevant for the facilitating thought aspect of emotional intelligence. In a systematic review of 29 studies examining moral reasoning within autism, researchers concluded that autistic adults consistently demonstrate the ability to discriminate between conventional and moral transgressions [64]. As with their neurotypical counterparts, autistic adults appear to view intentional and physically or psychologically harmful acts as more wrong than unintentional or neutral acts. However, unlike their neurotypical counterparts, autistic adults appear to judge disgust transgressions and moral transgressions as being similarly wrong and use more rule-based justifications (vs. those that appeal more to others' welfare) of moral judgements compared to neurotypical participants. Furthermore, autistic adults appear to be more punitive of acts regardless of their intentionality and tend to view accidental harms as more intentional than do neurotypical individuals. This all said, the authors caution that it would be inappropriate to conclude that these differences in intent-based moral reasoning in autism are necessarily detrimental or erroneous.

Taken together, the findings summarized in this section suggest that the facilitating thought facet of emotional intelligence appears to be an area that may create difficulty for autistic adults. Whereas many cognitive processes appear unimpaired or even heightened, this is not with respect to emotion and social cognition, which are of particular importance for emotional intelligence. Furthermore, it is likely that autistic adults will experience difficulties in perspective taking, or at the least in identifying whether inferences of others' mental states align with their own. Lastly, evidence that social and moral decision making differs for autistic individuals compared to neurotypical individuals suggests that the former group may utilize information differently in their thought processes than will the latter group. Thus, even if the differences in intent-based moral reasoning are not erroneous, as researchers have advised against inferring, the differences will be different and may lead to conclusions that are deemed extreme or unacceptable by others. As such, their lessened ability to infer others' motives and emotions and process emotional stimuli combined with an atypical use of emotions and emotion-related information in forming their thoughts and decisions will likely lead to impairments in the facilitating thought facet of emotional intelligence.

## 2.3. Understanding Emotions

Understanding emotions, the third facet of emotional intelligence, involves the ability to comprehend how emotions combine and transition, and to understand the meaning of such combinations and transitions. For example,



understanding that people who are angry are potentially dangerous would indicate that angry people perhaps should be avoided. Similarly, understanding the difference between outcomes associated with happiness and sadness could suggest that people who are happy are more likely to want to socialize compared to people who are sad [52].

Research of relevance for this facet overlaps with the cognitive processes research outlined in the previous section on facilitating thought. Nevertheless, to ensure comprehensiveness, additional search terms utilized for identify studies related to understanding emotions included “emotion understanding” “emotion comprehension”.

Beyond the research on social and emotion cognition outlines previously, no new studies of relevance emerged. That said, it is important to note that this facet of emotional intelligence is indeed distinct from the previous facet, and the same research that suggested impairment for facilitating thought would suggest a lack of impairment for understanding emotions. Specifically, there is no reason to believe that autistic individuals would be unable to comprehend the meaning and outcomes of emotions. Indeed, individual studies have demonstrated that autistic individuals have shown to exhibit high levels of concentration, a keen attention to detail, and an extraordinary memory for factual knowledge [65][66]. Moreover, the findings from the aforementioned reviews revealed that nondeclarative memories of nonsocial stimuli (such as facts about emotions as a construct) are not impaired and recognition of nonsocial stimuli appears to possibly be enhanced [62].

In sum, the extant research would suggest that autistic adults may not be able to recognize emotions in themselves or others (as specified in the earlier section on perceiving emotions) but understanding facts about emotions and recognizing and recalling the relevance of specific emotions is unlikely to be of concern. Thus, assuming an autistic individual has the cognitive abilities necessary to comprehend information related to emotions, the facet of understanding emotions is unlikely to be an aspect of emotional intelligence that is hindered.

---

## References

1. Coleman, J.S. *Foundations of Social Theory*; Harvard University Press: Cambridge, MA, USA, 1990.
2. Krackhardt, D.; Hanson, J.R. Informal networks: The company behind the chart. *Harvard Bus. Rev.* 1993, 71, 104–111.
3. Nahapiet, J.; Ghoshal, S. Social capital, intellectual capital, and the organizational advantage. *Acad. Manag. Rev.* 1998, 23, 242–266.
4. Rode, J.C.; Arthaud-Day, M.; Ramaswami, A.; Howes, S. A time-lagged study of emotional intelligence and salary. *J. Vocat. Behav.* 2017, 101, 77–89.
5. Salovey, P.; Mayer, J.D. Emotional Intelligence. *Imagin. Cogn. Personal.* 1990, 9, 185–211.

6. Mayer, J.D.; Salovey, P. What is emotional intelligence? In *Emotional Development and Emotional Intelligence*; Salovey, P., Sluyter, D., Eds.; Basic Books: New York, NY, USA, 1997; pp. 3–31.
7. Mayer, J.D.; Salovey, P.; Caruso, D. Models of emotional intelligence. In *Handbook of Intelligence*; Sternberg, R.J., Ed.; University of Cambridge: Cambridge, UK, 2000; pp. 396–420.
8. Bolino, M.C.; Turnley, W.H.; Bloodgood, J.M. Citizenship Behavior and the Creation of Social Capital in Organizations. *Acad. Manag. Rev.* 2002, 27, 505.
9. Kerr, R.; Garvin, J.; Heaton, N.; Boyle, E. Emotional intelligence and leadership effectiveness. *Leadersh. Organ. Dev. J.* 2006, 27, 265–279.
10. Leban, W.; Zulauf, C. Linking emotional intelligence abilities and transformational leadership styles. *Leadersh. Organ. Dev. J.* 2004, 25, 554–564.
11. Rosete, D.; Ciarrochi, J. Emotional intelligence and its relationship to workplace performance outcomes of leadership effectiveness. *Leadersh. Organ. Dev. J.* 2005, 26, 388–399.
12. O’Boyle, E.H.; Humphrey, R.; Pollack, J.M.; Hawver, T.H.; Story, P.A. The relation between emotional intelligence and job performance: A meta-analysis. *J. Organ. Behav.* 2011, 32, 788–818.
13. Miao, C.; Humphrey, R.; Qian, S. A meta-analysis of emotional intelligence and work attitudes. *J. Occup. Organ. Psychol.* 2016, 90, 177–202.
14. Miao, C.; Humphrey, R.H.; Qian, S. Are the emotionally intelligent good citizens or counterproductive? A meta-analysis of emotional intelligence and its relationships with organizational citizenship behavior and counterproductive work behavior. *Pers. Individ. Differ.* 2017, 116, 144–156.
15. Wiggins, L.D.; Levy, S.E.; Daniels, J.; Schieve, L.; Croen, L.A.; DiGuseppi, C.; Blaskey, L.; Giarelli, E.; Lee, L.-C.; Pinto-Martin, J.; et al. Autism Spectrum Disorder Symptoms Among Children Enrolled in the Study to Explore Early Development (SEED). *J. Autism Dev. Disord.* 2015, 45, 3183–3194.
16. Areheart, B.A. When Disability Isn’t “Just Right”: The Entrenchment of the Medical Model of Disability and the Goldilocks Dilemma. *Indiana Law J.* 2008, 83, 181–232. Available online: <https://ssrn.com/abstract=980177> (accessed on 17 February 2023).
17. Walker, N. Throw away the master’s tools: Liberating ourselves from the pathology paradigm. In *Loud Hands: Autistic People, Speaking*; The Autistic Self Advocacy Network: Washington, DC, USA, 2012; pp. 225–237.
18. Hahn, H.D.; Belt, T.L. Disability Identity and Attitudes Toward Cure in a Sample of Disabled Activists. *J. Health Soc. Behav.* 2004, 45, 453–464.
19. Oliver, M. *The Politics of Disablement*; Red Globe Press: London, UK, 1990.

20. Russell, G.; Kapp, S.; Elliott, D.; Elphick, C.; Gwernan-Jones, R.; Owens, C. Mapping the Autistic Advantage from the Accounts of Adults Diagnosed with Autism: A Qualitative Study. *Autism Adulthood* 2019, 1, 124–133.
21. Meilleur, A.-A.S.; Jelenic, P.; Mottron, L. Prevalence of Clinically and Empirically Defined Talents and Strengths in Autism. *J. Autism Dev. Disord.* 2015, 45, 1354–1367.
22. Jacob, A.; Scott, M.; Falkmer, M.; Falkmer, T. The Costs and Benefits of Employing an Adult with Autism Spectrum Disorder: A Systematic Review. *PLoS ONE* 2015, 10, e0139896.
23. Woods, R. Exploring how the social model of disability can be re-invigorated for autism: In response to Jonathan Levitt. *Disabil. Soc.* 2017, 32, 1090–1095.
24. Lorenc, T.; Rodgers, M.; Marshall, D.; Melton, H.; Rees, R.; Wright, K.; Sowden, A. Support for adults with autism spectrum disorder without intellectual impairment: Systematic review. *Autism* 2018, 22, 654–668.
25. Mai, A.M. Hiring Agents' Beliefs: A Barrier to Employment of Autistics. *SAGE Open* 2019, 9, 2158244019862725.
26. Maroto, M.; Pettinicchio, D. Twenty-Five Years After the ADA: Situating Disability in America's System of Stratification. *Disabil. Stud. Q.* 2015, 35, 3.
27. Bury, S.M.; Flower, R.L.; Zulla, R.; Nicholas, D.B.; Hedley, D. Workplace Social Challenges Experienced by Employees on the Autism Spectrum: An International Exploratory Study Examining Employee and Supervisor Perspectives. *J. Autism Dev. Disord.* 2020, 51, 1614–1627.
28. Rashid, M.; Hodgetts, S.; Nicholas, D. Building Employer Capacity to Support Meaningful Employment for Persons with Developmental Disabilities: A Grounded Theory Study of Employment Support Perspectives. *J. Autism Dev. Disord.* 2017, 47, 3510–3519.
29. Johnson, K.R.; Ennis-Cole, D.; Bonhamgregory, M. Workplace Success Strategies for Employees With Autism Spectrum Disorder: A New Frontier for Human Resource Development. *Hum. Resour. Dev. Rev.* 2020, 19, 122–151.
30. Praslova, L.N. An Intersectional Approach to Inclusion at Work. *Harvard Bus. Rev.* 2022. Available online: <https://hbr.org/2022/06/an-intersectional-approach-to-inclusion-at-work> (accessed on 14 December 2022).
31. Dreaver, J.; Thompson, C.; Girdler, S.; Adolfsson, M.; Black, M.H.; Falkmer, M. Success Factors Enabling Employment for Adults on the Autism Spectrum from Employers' Perspective. *J. Autism Dev. Disord.* 2019, 50, 1657–1667.
32. Waisman-Nitzan, M.; Gal, E.; Schreuer, N. "It's like a ramp for a person in a wheelchair": Workplace accessibility for employees with autism. *Res. Dev. Disabil.* 2021, 114, 103959.

33. Boily, R.; Kingston, S.E.; Montgomery, J.M. Trait and Ability Emotional Intelligence in Adolescents with and without Autism Spectrum Disorder. *Can. J. Sch. Psychol.* 2017, 32, 282–298.
34. Gökçen, E.; Petrides, K.V.; Hudry, K.; Frederickson, N.; Smillie, L.D. Sub-threshold autism traits: The role of trait emotional intelligence and cognitive flexibility. *Br. J. Psychol.* 2014, 105, 187–199.
35. Huggins, C.; Donnan, G.; Cameron, I.; Williams, J. A systematic review of how emotional self-awareness is defined and measured when comparing autistic and non-autistic groups. *Res. Autism Spectr. Disord.* 2020, 77, 101612.
36. Huggins, C.F.; Donnan, G.; Cameron, I.M.; Williams, J.H. Emotional self-awareness in autism: A meta-analysis of group differences and developmental effects. *Autism* 2021, 25, 307–321.
37. Kinnaird, E.; Stewart, C.; Tchanturia, K. Investigating alexithymia in autism: A systematic review and meta-analysis. *Eur. Psychiatry* 2019, 55, 80–89.
38. Bagby, R.M.; Parker, J.D.A.; Taylor, G.J. The twenty-item Toronto Alexithymia scale—I. Item selection and cross-validation of the factor structure. *J. Psychosom. Res.* 1994, 38, 23–32.
39. Momm, T.; Blickle, G.; Liu, Y.; Wihler, A.; Kholin, M.; Menges, J.I. It pays to have an eye for emotions: Emotion recognition ability indirectly predicts annual income. *J. Organ. Behav.* 2015, 36, 147–163.
40. Anderson, D.K.; Maye, M.P.; Lord, C. Changes in Maladaptive Behaviors From Midchildhood to Young Adulthood in Autism Spectrum Disorder. *Am. J. Intellect. Dev. Disabil.* 2011, 116, 381–397.
41. Harms, P.; Credé, M. Emotional Intelligence and Transformational and Transactional Leadership: A Meta-Analysis. *J. Leadersh. Organ. Stud.* 2010, 17, 5–17.
42. Uljarevic, M.; Hamilton, A. Recognition of Emotions in Autism: A Formal Meta-Analysis. *J. Autism Dev. Disord.* 2013, 43, 1517–1526.
43. Lozier, L.M.; Vanmeter, J.W.; Marsh, A.A. Impairments in facial affect recognition associated with autism spectrum disorders: A meta-analysis. *Dev. Psychopathol.* 2014, 26, 933–945.
44. Wieckowski, A.T.; Flynn, L.T.; Richey, J.A.; Gracanin, D.; White, S.W. Measuring change in facial emotion recognition in individuals with autism spectrum disorder: A systematic review. *Autism* 2020, 24, 1607–1628.
45. Leung, F.Y.N.; Sin, J.; Dawson, C.; Ong, J.H.; Zhao, C.; Veić, A.; Liu, F. Emotion recognition across visual and auditory modalities in autism spectrum disorder: A systematic review and meta-analysis. *Dev. Rev.* 2022, 63, 101000.
46. Yeung, M.K. A systematic review and meta-analysis of facial emotion recognition in autism spectrum disorder: The specificity of deficits and the role of task characteristics. *Neurosci. Biobehav. Rev.* 2022, 133, 104518.

47. Papagiannopoulou, E.A.; Chitty, K.M.; Hermens, D.F.; Hickie, I.B.; Lagopoulos, J. A systematic review and meta-analysis of eye-tracking studies in children with autism spectrum disorders. *Soc. Neurosci.* 2014, 9, 1–23.
48. Black, M.H.; Chen, N.T.; Iyer, K.K.; Lipp, O.V.; Bölte, S.; Falkmer, M.; Tan, T.; Girdler, S. Mechanisms of facial emotion recognition in autism spectrum disorders: Insights from eye tracking and electroencephalography. *Neurosci. Biobehav. Rev.* 2017, 80, 488–515.
49. Cuve, H.C.; Gao, Y.; Fuse, A. Is it avoidance or hypoarousal? A systematic review of emotion recognition, eye-tracking, and psychophysiological studies in young adults with autism spectrum conditions. *Res. Autism Spectr. Disord.* 2018, 55, 1–13.
50. Zhang, M.; Xu, S.; Chen, Y.; Lin, Y.; Ding, H.; Zhang, Y. Recognition of affective prosody in autism spectrum conditions: A systematic review and meta-analysis. *Autism* 2022, 26, 798–813.
51. Zhang, M.; Chen, Y.; Lin, Y.; Ding, H.; Zhang, Y. Multichannel Perception of Emotion in Speech, Voice, Facial Expression, and Gesture in Individuals With Autism: A Scoping Review. *J. Speech Lang. Hear. Res.* 2022, 65, 1435–1449.
52. Mayer, J.D. Personal intelligence expressed: A theoretical analysis. *Rev. Gen. Psychol.* 2009, 13, 46–58.
53. Lerner, J.S.; Tiedens, L.Z. Portrait of the angry decision maker: How appraisal tendencies shape anger's influence on cognition. *J. Behav. Decis. Mak.* 2006, 19, 115–137.
54. Smith, C.A.; Ellsworth, P.C. Patterns of cognitive appraisal in emotion. *J. Pers. Soc. Psychol.* 1985, 48, 813–838.
55. Drace, S.; Ric, F. The effect of emotions on risk perception: Experimental evaluation of the affective tendencies framework. *Psihologija* 2012, 45, 409–416.
56. Derksen, D.; Hunsche, M.C.; Giroux, M.E.; Connolly, D.A.; Bernstein, D.M. A Systematic Review of Theory of Mind's Precursors and Functions. *Z. Psychol.* 2018, 226, 87–97.
57. Olsson, A.; Ochsner, K.N. The role of social cognition in emotion. *Trends Cogn. Sci.* 2008, 12, 65–71.
58. Chung, Y.S.; Barch, D.; Strube, M. A Meta-Analysis of Mentalizing Impairments in Adults With Schizophrenia and Autism Spectrum Disorder. *Schizophr. Bull.* 2014, 40, 602–616.
59. Johnson, B.N.; Kivity, Y.; Rosenstein, L.K.; LeBreton, J.M.; Levy, K.N. The association between mentalizing and psychopathology: A meta-analysis of the reading the mind in the eyes task across psychiatric disorders. *Clin. Psychol. Sci. Pract.* 2022, 29, 423–439.
60. Deschrijver, E.; Palmer, C. Reframing social cognition: Relational versus representational mentalizing. *Psychol. Bull.* 2020, 146, 941–969.

61. Velikonja, T.; Fett, A.-K.; Velthorst, E. Patterns of Nonsocial and Social Cognitive Functioning in Adults With Autism Spectrum Disorder: A systematic review and meta-analysis. *JAMA Psychiatry* 2019, 76, 135–151.
62. Boucher, J.; Mayes, A.; Bigham, S. Memory in autistic spectrum disorder. *Psychol. Bull.* 2012, 138, 458–496.
63. Hinterbuchinger, B.; Kaltenboeck, A.; Baumgartner, J.S.; Mossaheb, N.; Friedrich, F. Do patients with different psychiatric disorders show altered social decision-making? A systematic review of ultimatum game experiments in clinical populations. *Cogn. Neuropsychiatry* 2018, 23, 117–141.
64. Dempsey, E.E.; Moore, C.; Johnson, S.A.; Stewart, S.H.; Smith, I.M. Morality in autism spectrum disorder: A systematic review. *Dev. Psychopathol.* 2020, 32, 1069–1085.
65. Frith, U.; Happé, F. Autism spectrum disorder. *Curr. Biol.* 2005, 15, R786–R790.
66. Happé, F. Why are savant skills and special talents associated with autism? *World Psychiatry* 2018, 17, 280–281.

---

Retrieved from <https://encyclopedia.pub/entry/history/show/100344>