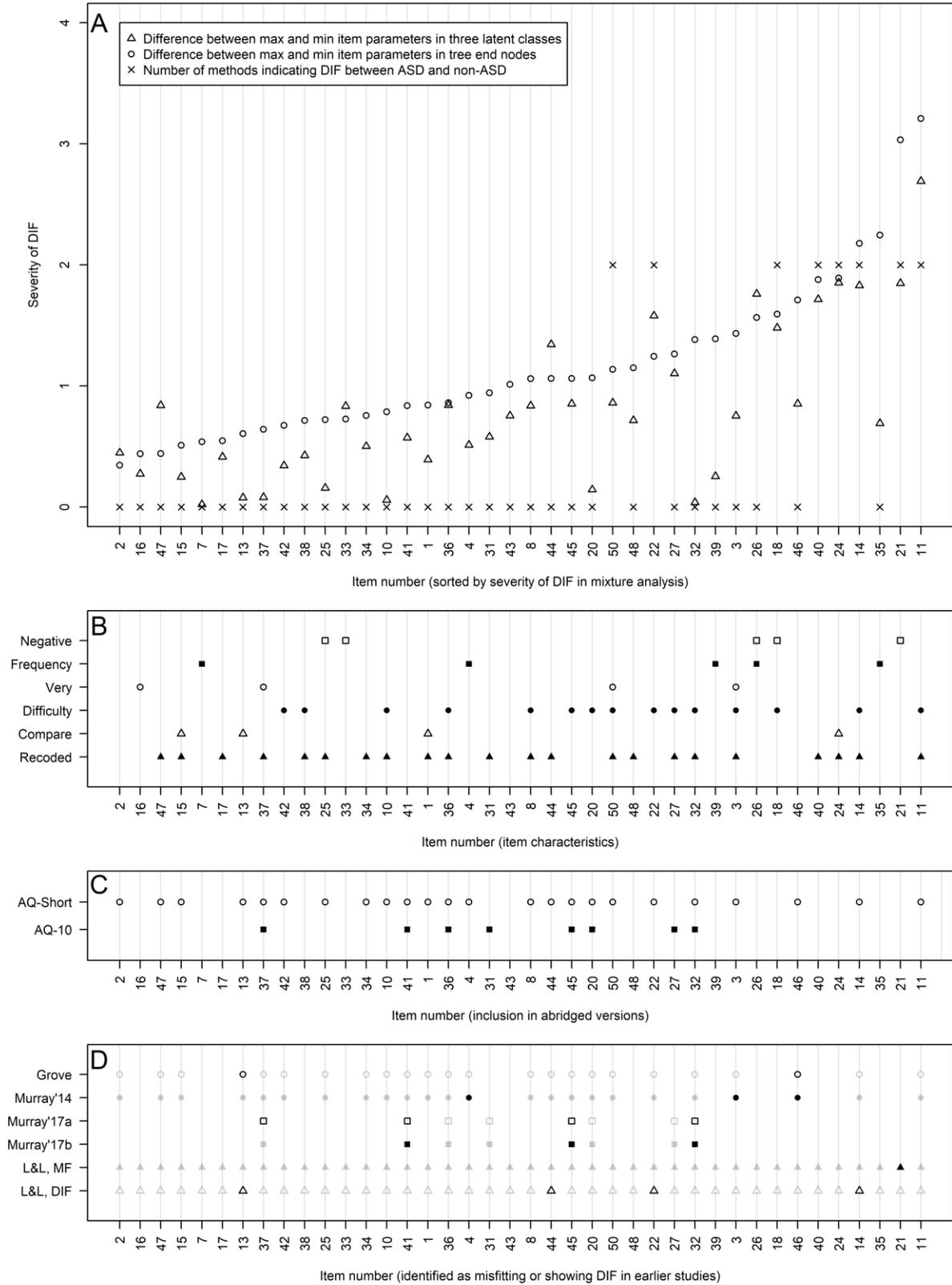
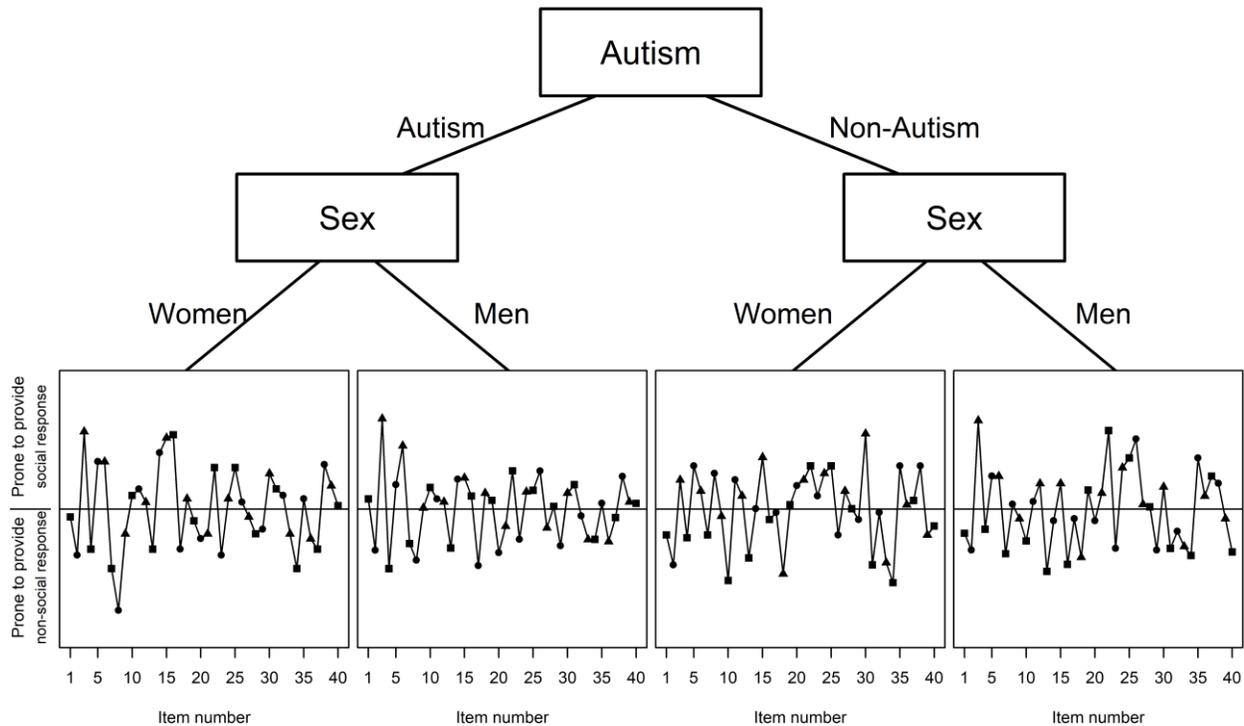


Supplementary Material : Versions of Figure 1 and 2 for the Social Interaction subscale

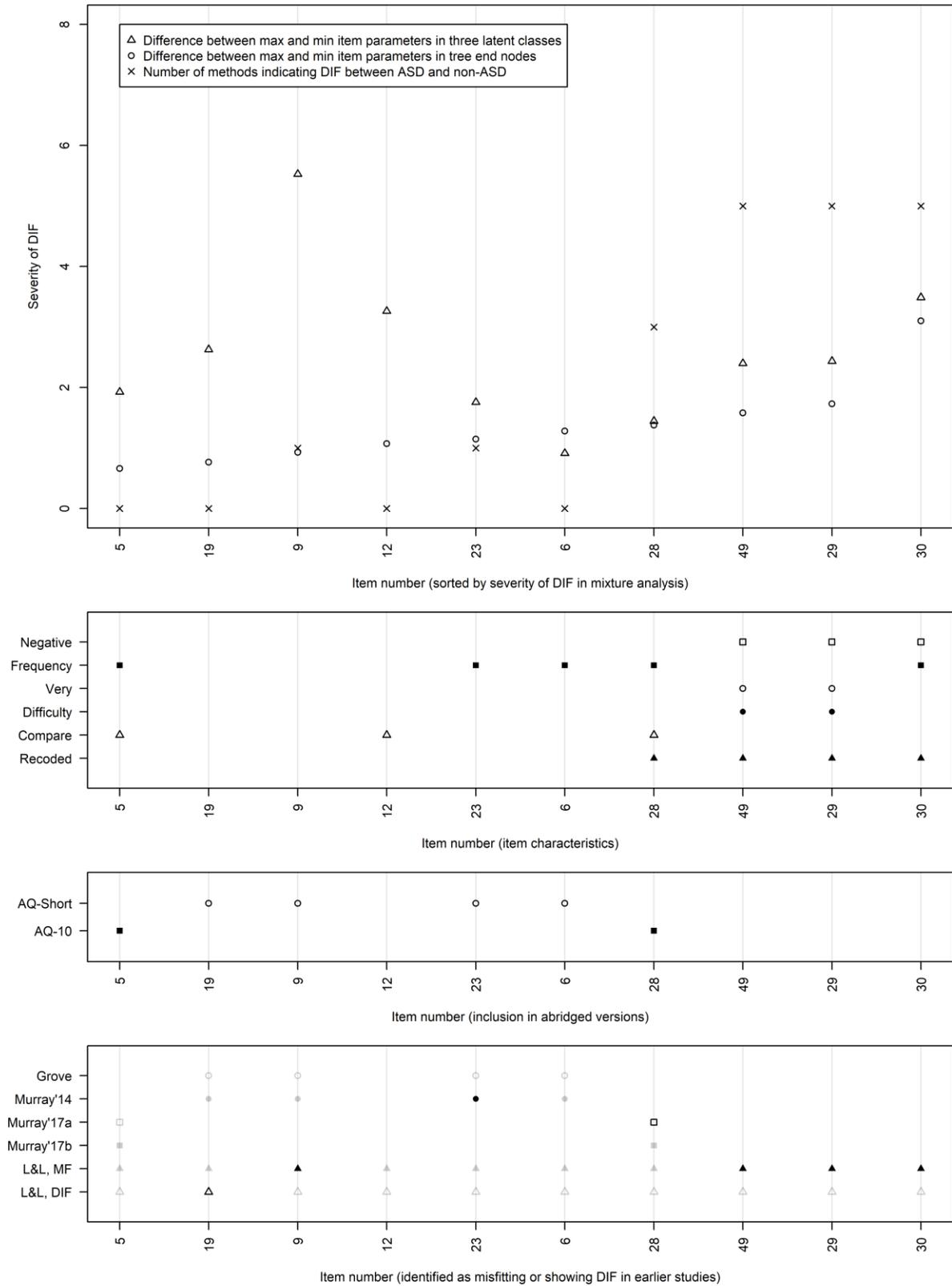


*Figure A Multi-paneled figure for the Social Interaction subscale of the two-factor model, with different kinds of information on the items on the y-axis, and the item numbers on the x-axis. The x-axis is ordered by the results of the Rasch regression model analysis, with the smallest DIF on the left (item 2), and the largest DIF on the right (item 11). The first panel (A) depicts the severity of DIF, where higher DIF indicates larger differences between groups, as measured in three analyses: Rasch mixture models (triangles), Rasch regression trees (circles), and traditional methods (crosses). The second panel (B) depicts several item characteristics: whether the item was negatively phrased (Negative, in empty squares), contained a word denoting frequency (Frequency, in filled squares), contained the word "very" (in empty circles), contained a word denoting difficulty (Difficulty, in filled circles), contained a comparison (Compare, in empty triangles), and/or was a reversely coded item (Recoded, in filled triangles). The third panel (C) depicts whether the items were included in the AQ-28 and the AQ-10. The fourth panel (D) depicts whether the items were identified as misfitting, or as showing DIF, in a previous study comparing groups. Those items with faint coloring were included in the versions used in these studies. Lundqvist and Lindner (2017) used all 50 items. Grove = Grove et al., (2017); Murray'14 = Murray et al. (2014), Murray'17a = Murray et al. (2017a), Murray'17b = Murray et al. (2017b), L&L = Lundqvist & Lindner (2017), MF = Misfit, DIF = Differential Item Functioning, AQ = Autism Spectrum Quotient.*

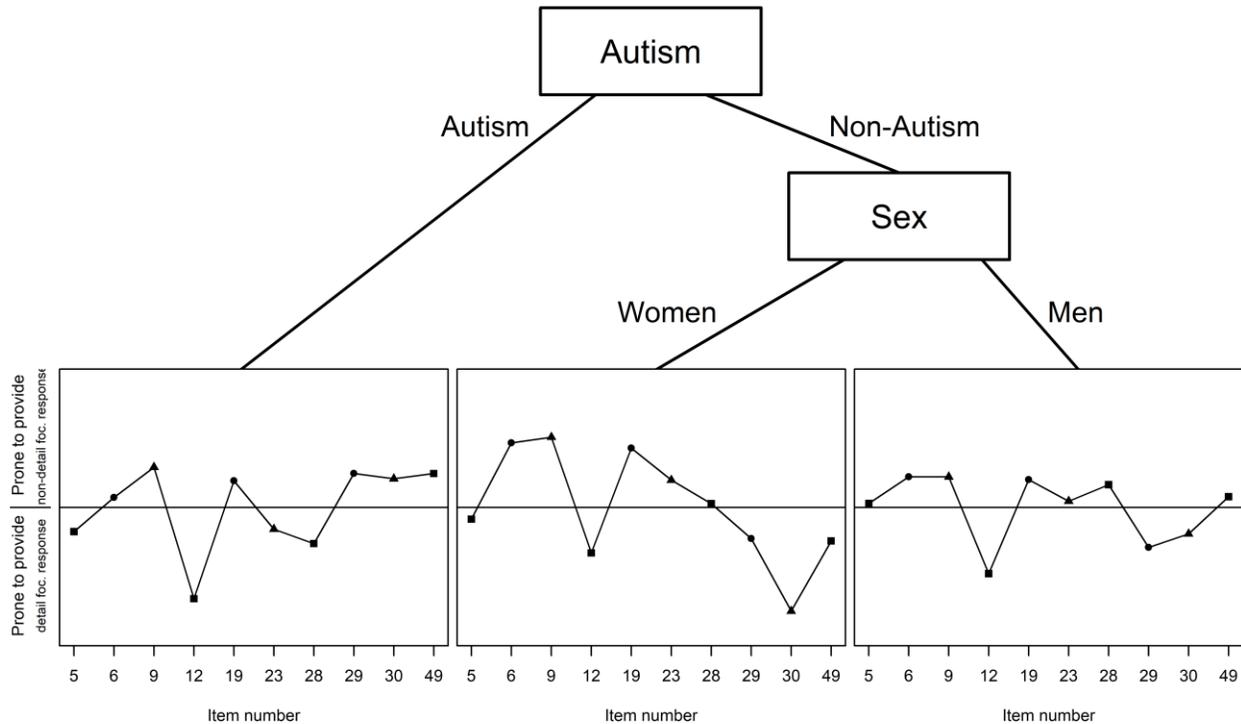


*Figure B Rasch regression tree for the Social interaction subscale of the two-factor model. In the bottom plots, the normalized item difficulties are plotted for the different groups. The higher a particular point is, the more prone a person within that subgroup is to provide a response that is not typical of issues with social interaction; the lower, the more prone a person within that subgroup is to provide a response that is typical of issues with social interaction, all given equal values on social interaction issues. The different symbols (square, circle, triangle) do not have separate meanings, but were chosen so the points can be more easily distinguished and the position can be compared between the four different subgroups.*

Supplementary Material : Versions of Figure 1 and 2 for the Attention to Detail subscale

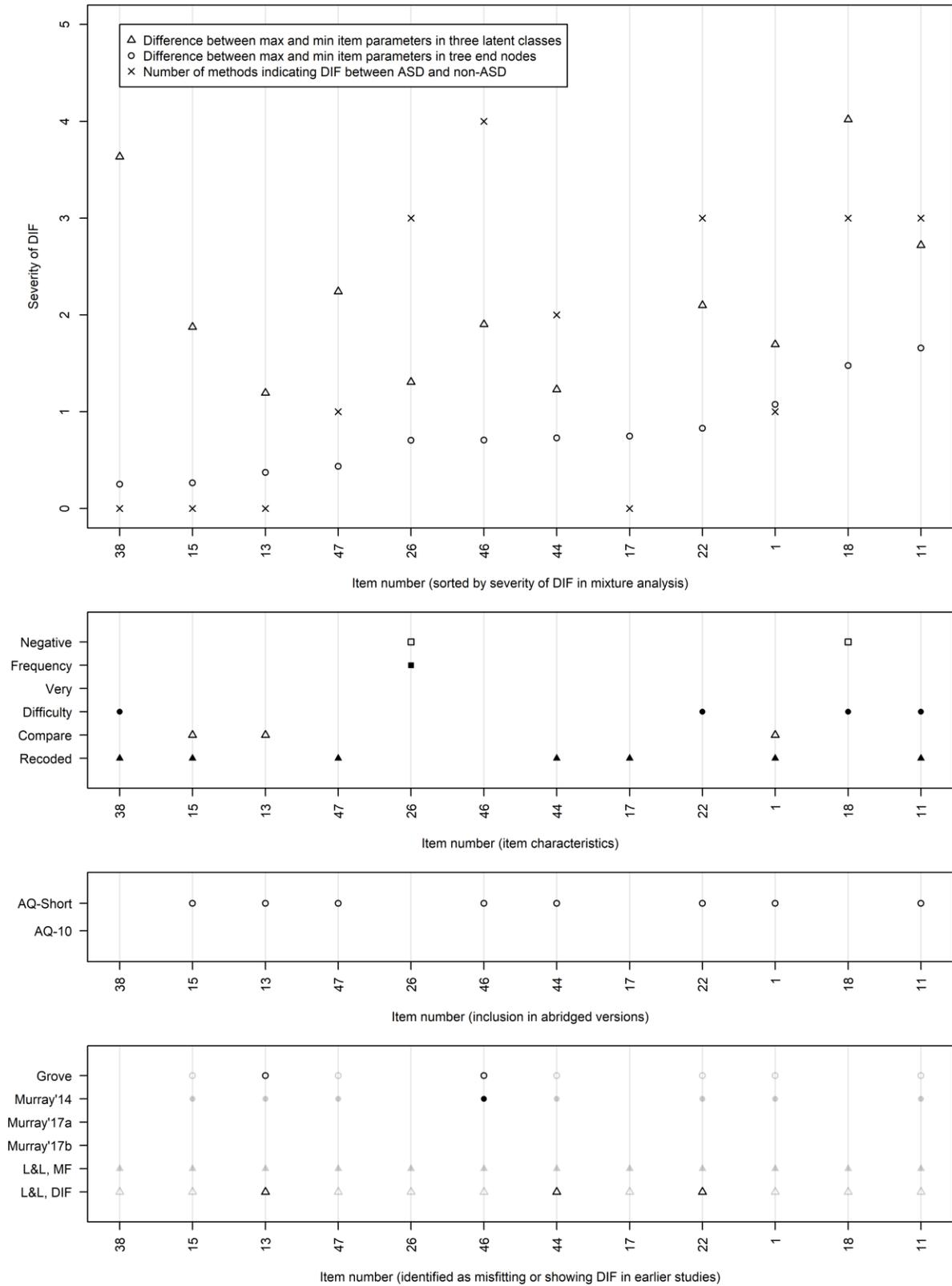


*Figure C Multi-paneled figure for the Attention to detail subscale of the two-factor model, with different kinds of information on the items on the y-axis, and the item numbers on the x-axis. The x-axis is ordered by the results of the Rasch regression model analysis, with the smallest DIF on the left (item 5), and the largest DIF on the right (item 30). The first panel (A) depicts the severity of DIF, where higher DIF indicates larger differences between groups, as measured in three analyses: Rasch mixture models (triangles), Rasch regression trees (circles), and traditional methods (crosses). The second panel (B) depicts several item characteristics: whether the item was negatively phrased (Negative, in empty squares), contained a word denoting frequency (Frequency, in filled squares), contained the word "very" (in empty circles), contained a word denoting difficulty (Difficulty, in filled circles), contained a comparison (Compare, in empty triangles), and/or was a reversely coded item (Recoded, in filled triangles). The third panel (C) depicts whether the items were included in the AQ-28 and the AQ-10. The fourth panel (D) depicts whether the items were identified as misfitting, or as showing DIF, in a previous study comparing groups. Those items with faint coloring were included in the versions used in these studies. Lundqvist and Lindner (2017) used all 50 items. Grove = Grove et al., (2017); Murray'14 = Murray et al. (2014), Murray'17a = Murray et al. (2017a), Murray'17b = Murray et al. (2017b), L&L = Lundqvist & Lindner (2017), MF = Misfit, DIF = Differential Item Functioning, AQ = Autism Spectrum Quotient.*

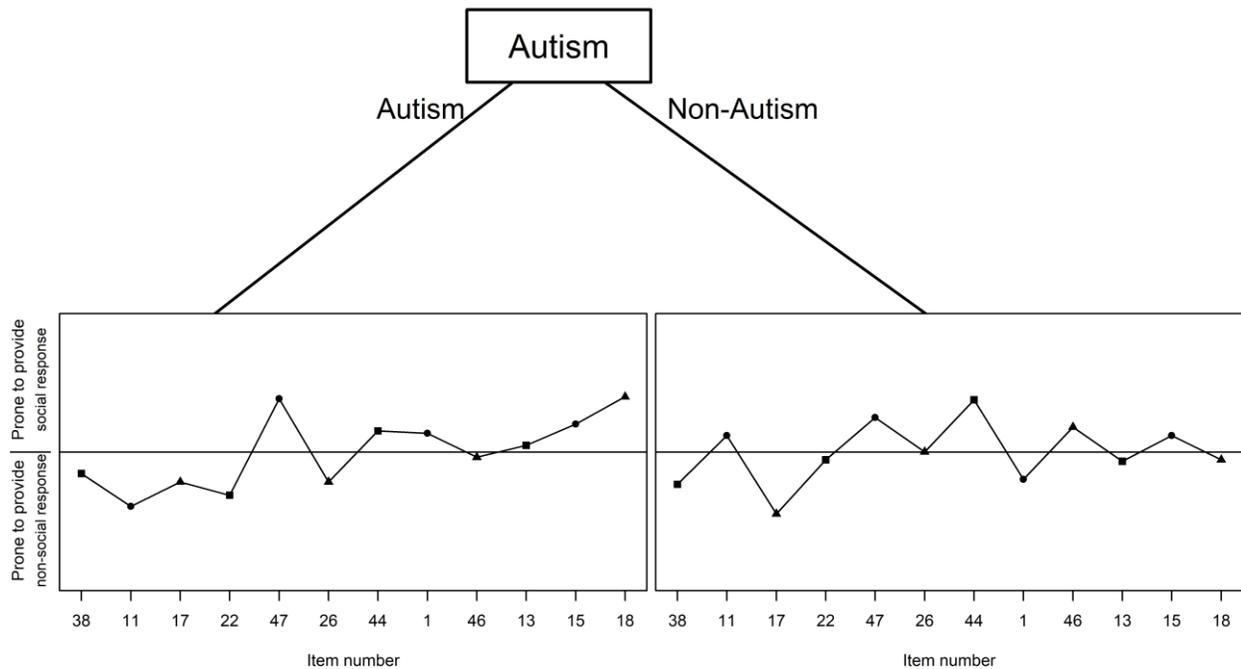


*Figure D Rasch regression tree for the Attention to detail subscale of the two-factor model. In the bottom plots, the normalized item difficulties are plotted for the different groups. The higher a particular point is, the more prone a person within that subgroup is to provide a response that is not typical of increased attention to detail; the lower, the more prone a person within that subgroup is to provide a response that is typical of increased attention to detail, all given equal values on attentiveness to detail. The different symbols (square, circle, triangle) do not have separate meanings, but were chosen so the points can be more easily distinguished and the position can be compared between the four different subgroups.*

Supplementary Material : Versions of Figure 1 and 2 for the Socialness subscale

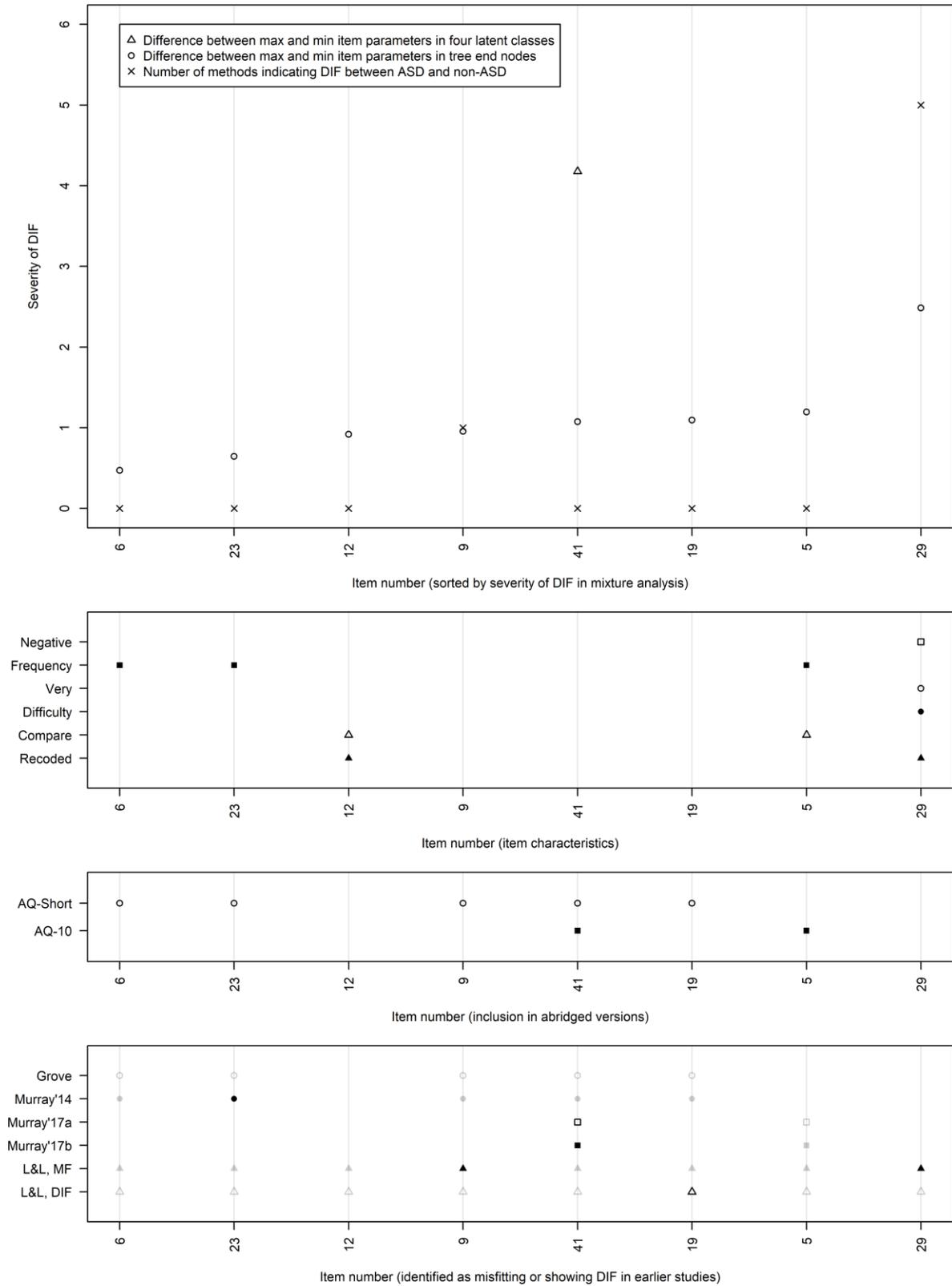


*Figure E Multi-paneled figure for the Socialness subscale of the four-factor model, with different kinds of information on the items on the y-axis, and the item numbers on the x-axis. The x-axis is ordered by the results of the Rasch regression model analysis, with the smallest DIF on the left (item 38), and the largest DIF on the right (item 11). The first panel (A) depicts the severity of DIF, where higher DIF indicates larger differences between groups, as measured in three analyses: Rasch mixture models (triangles), Rasch regression trees (circles), and traditional methods (crosses). The second panel (B) depicts several item characteristics: whether the item was negatively phrased (Negative, in empty squares), contained a word denoting frequency (Frequency, in filled squares), contained the word "very" (in empty circles), contained a word denoting difficulty (Difficulty, in filled circles), contained a comparison (Compare, in empty triangles), and/or was a reversely coded item (Recoded, in filled triangles). The third panel (C) depicts whether the items were included in the AQ-28 and the AQ-10. The fourth panel (D) depicts whether the items were identified as misfitting, or as showing DIF, in a previous study comparing groups. Those items with faint coloring were included in the versions used in these studies. Lundqvist and Lindner (2017) used all 50 items. Grove = Grove et al., (2017); Murray'14 = Murray et al. (2014), Murray'17a = Murray et al. (2017a), Murray'17b = Murray et al. (2017b), L&L = Lundqvist & Lindner (2017), MF = Misfit, DIF = Differential Item Functioning, AQ = Autism Spectrum Quotient.*

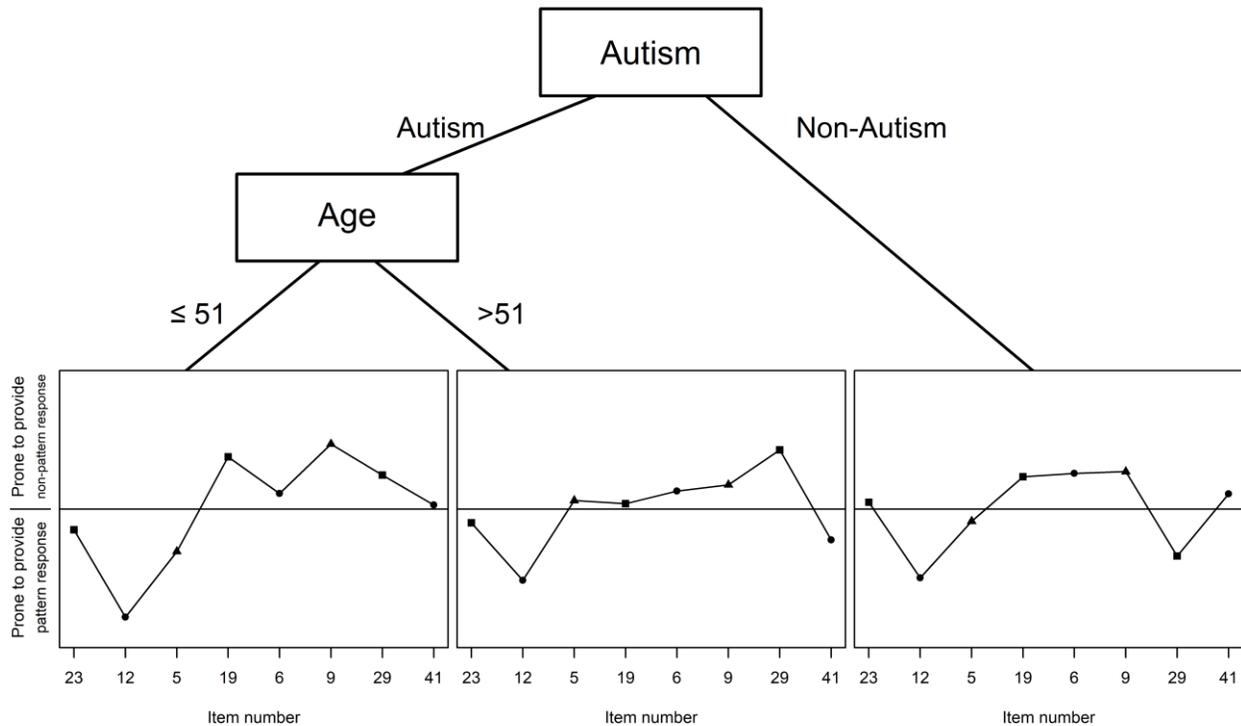


*Figure F Rasch regression tree for the Socialness subscale of the four-factor model. In the bottom plots, the normalized item difficulties are plotted for the different groups. The higher a particular point is, the more prone a person within that subgroup is to provide a response that is social; the lower, the more prone a person within that subgroup is to provide a response that is non-social, all given equal values on socialness. The different symbols (square, circle, triangle) do not have separate meanings, but were chosen so the points can be more easily distinguished and the position can be compared between the four different subgroups.*

Supplementary Material : Versions of Figure 1 and 2 for the Patterns subscale

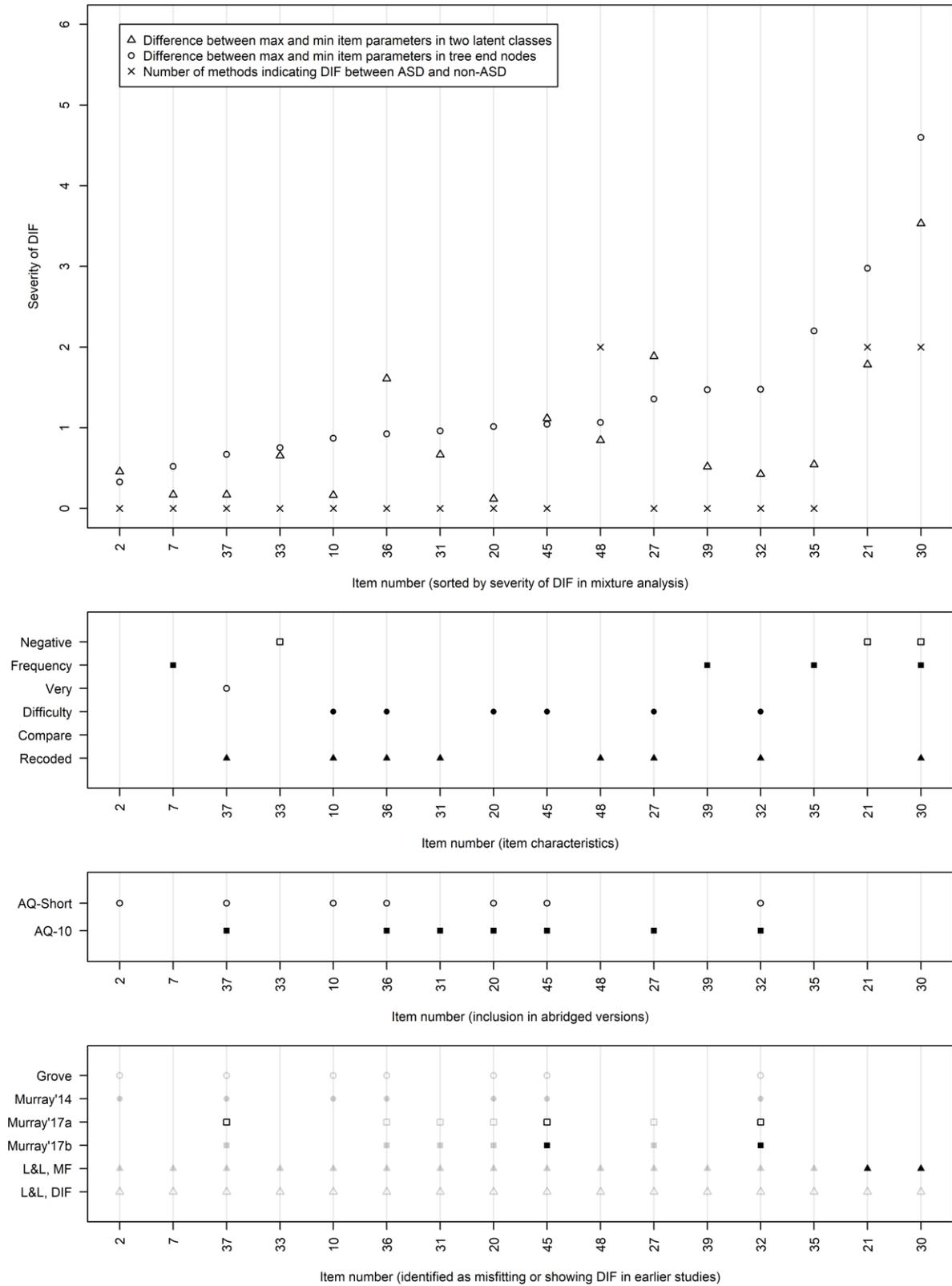


*Figure G Multi-paneled figure for the Patterns subscale of the four-factor model, with different kinds of information on the items on the y-axis, and the item numbers on the x-axis. The x-axis is ordered by the results of the Rasch regression model analysis, with the smallest DIF on the left (item 6), and the largest DIF on the right (item 29). The first panel (A) depicts the severity of DIF, where higher DIF indicates larger differences between groups, as measured in three analyses: Rasch mixture models (triangles), Rasch regression trees (circles), and traditional methods (crosses). Some triangles are missing, because the severity of DIF according to the Rasch mixture model was larger than fitted in this figure. The second panel (B) depicts several item characteristics: whether the item was negatively phrased (Negative, in empty squares), contained a word denoting frequency (Frequency, in filled squares), contained the word "very" (in empty circles), contained a word denoting difficulty (Difficulty, in filled circles), contained a comparison (Compare, in empty triangles), and/or was a reversely coded item (Recoded, in filled triangles). The third panel (C) depicts whether the items were included in the AQ-28 and the AQ-10. The fourth panel (D) depicts whether the items were identified as misfitting, or as showing DIF, in a previous study comparing groups. Those items with faint coloring were included in the versions used in these studies. Lundqvist and Lindner (2017) used all 50 items. Grove = Grove et al., (2017); Murray'14 = Murray et al. (2014), Murray'17a = Murray et al. (2017a), Murray'17b = Murray et al. (2017b), L&L = Lundqvist & Lindner (2017), MF = Misfit, DIF = Differential Item Functioning, AQ = Autism Spectrum Quotient.*

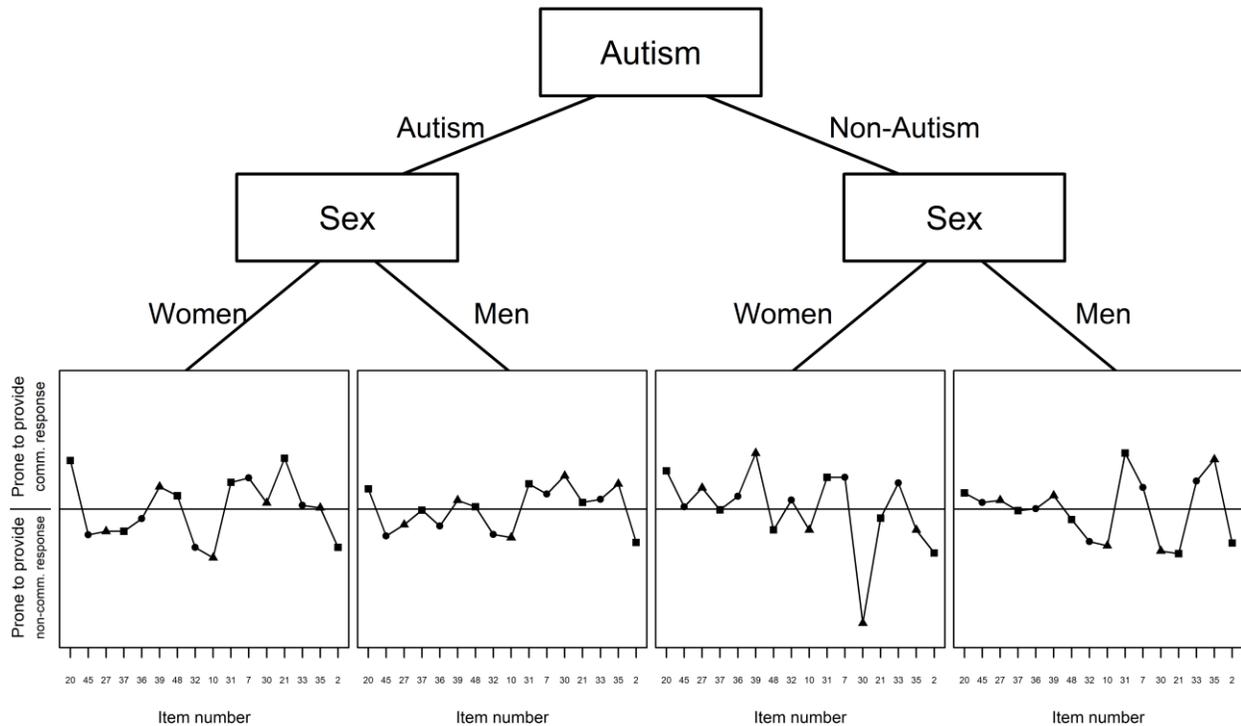


*Figure H Rasch regression tree for the Patterns subscale of the four-factor model. In the bottom plots, the normalized item difficulties are plotted for the different groups. The higher a particular point is, the more prone a person within that subgroup is to provide a response that is not typical of interest in patterns; the lower, the more prone a person within that subgroup is to provide a response that is typical of interest in patterns, all given equal values on pattern interest. The different symbols (square, circle, triangle) do not have separate meanings, but were chosen so the points can be more easily distinguished and the position can be compared between the four different subgroups.*

Supplementary Material: Versions of Figure 1, 2 for the Understanding others / Comm. subscale

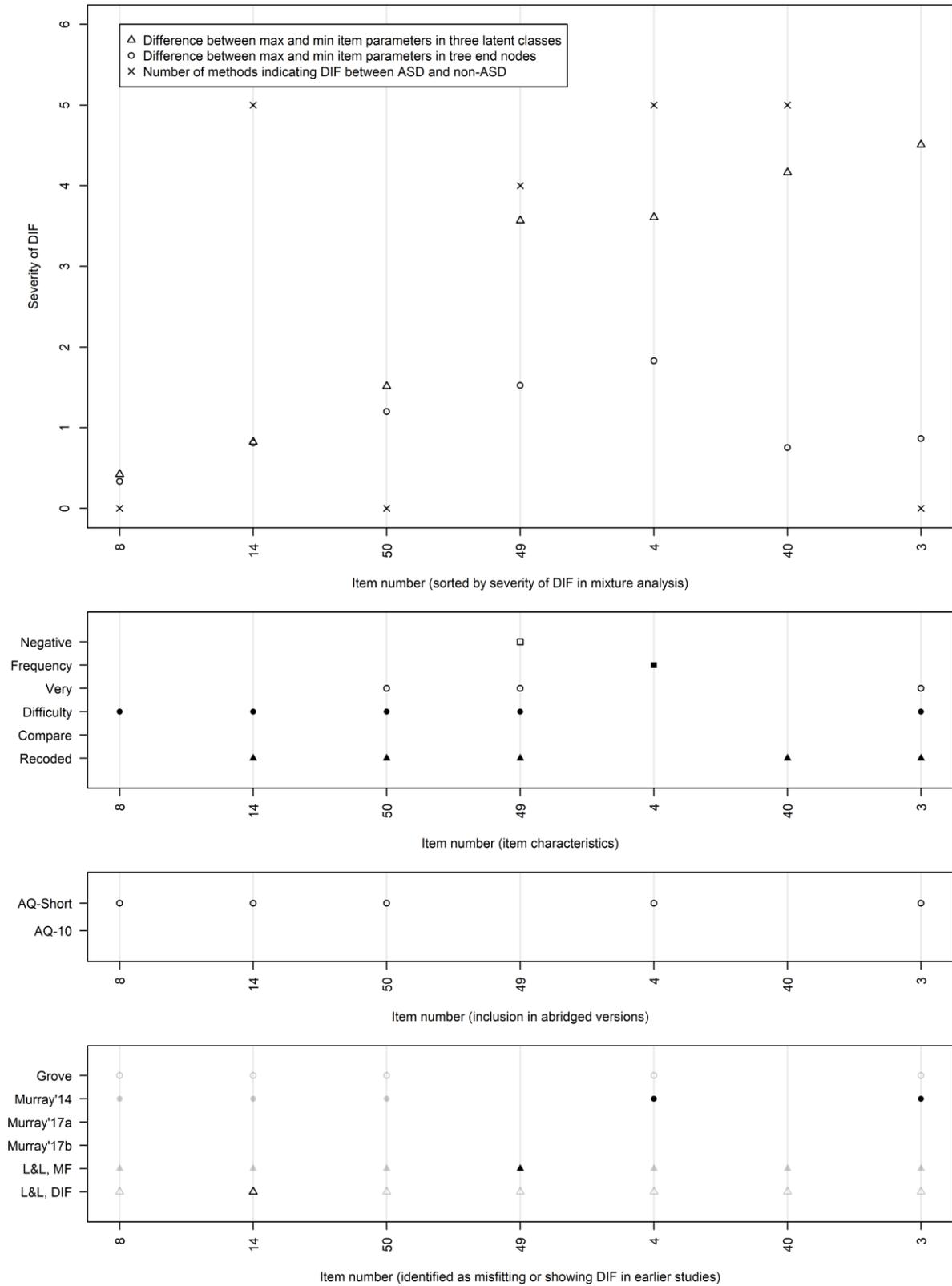


*Figure I Multi-paneled figure for the Understanding others / Communication subscale of the four-factor model, with different kinds of information on the items on the y-axis, and the item numbers on the x-axis. The x-axis is ordered by the results of the Rasch regression model analysis, with the smallest DIF on the left (item 2), and the largest DIF on the right (item 30). The first panel (A) depicts the severity of DIF, where higher DIF indicates larger differences between groups, as measured in three analyses: Rasch mixture models (triangles), Rasch regression trees (circles), and traditional methods (crosses). The second panel (B) depicts several item characteristics: whether the item was negatively phrased (Negative, in empty squares), contained a word denoting frequency (Frequency, in filled squares), contained the word "very" (in empty circles), contained a word denoting difficulty (Difficulty, in filled circles), contained a comparison (Compare, in empty triangles), and/or was a reversely coded item (Recoded, in filled triangles). The third panel (C) depicts whether the items were included in the AQ-28 and the AQ-10. The fourth panel (D) depicts whether the items were identified as misfitting, or as showing DIF, in a previous study comparing groups. Those items with faint coloring were included in the versions used in these studies. Lundqvist and Lindner (2017) used all 50 items. Grove = Grove et al., (2017); Murray'14 = Murray et al. (2014), Murray'17a = Murray et al. (2017a), Murray'17b = Murray et al. (2017b), L&L = Lundqvist & Lindner (2017), MF = Misfit, DIF = Differential Item Functioning, AQ = Autism Spectrum Quotient.*

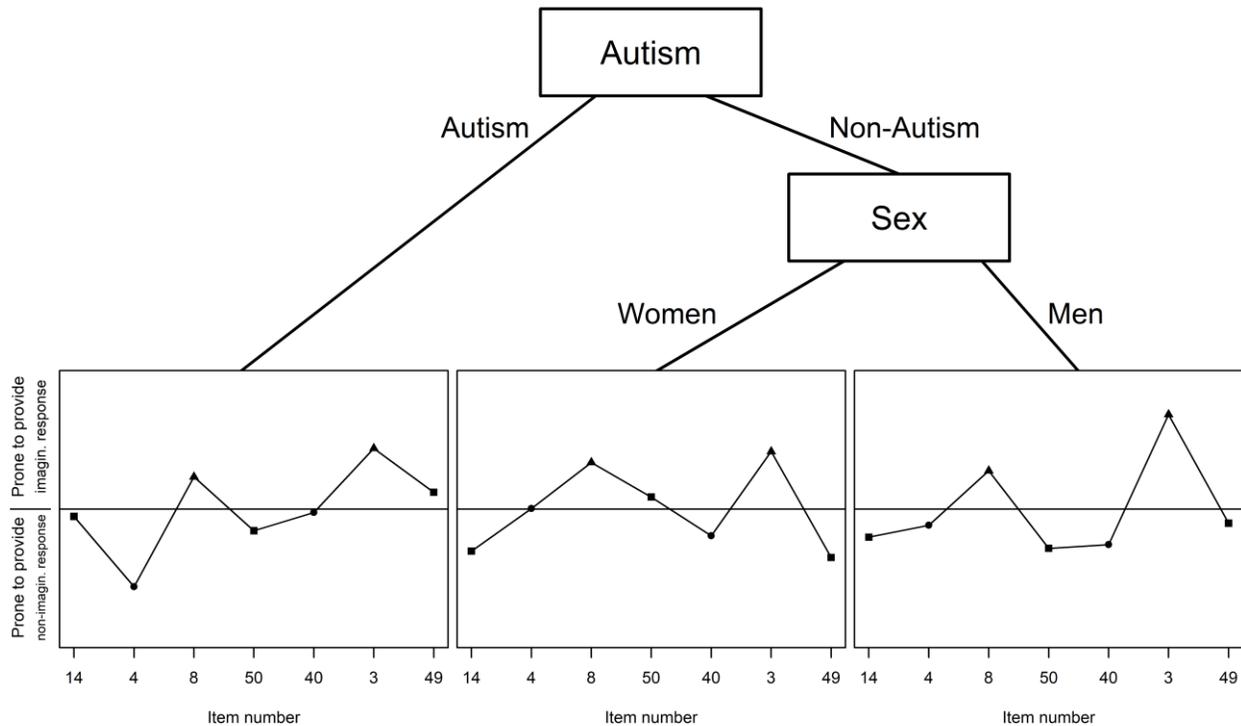


*Figure J Rasch regression tree for the Understanding others / Communication subscale of the four-factor model. In the bottom plots, the normalized item difficulties are plotted for the different groups. The higher a particular point is, the more prone a person within that subgroup is to provide a response that is not typical of having difficulties with understanding others; the lower, the more prone a person within that subgroup is to provide a response that is typical of having difficulties with understanding others, all given equal values on having difficulties with understanding others. The different symbols (square, circle, triangle) do not have separate meanings, but were chosen so the points can be more easily distinguished and the position can be compared between the four different subgroups.*

Supplementary Material : Versions of Figure 1 and 2 for the Imagination subscale

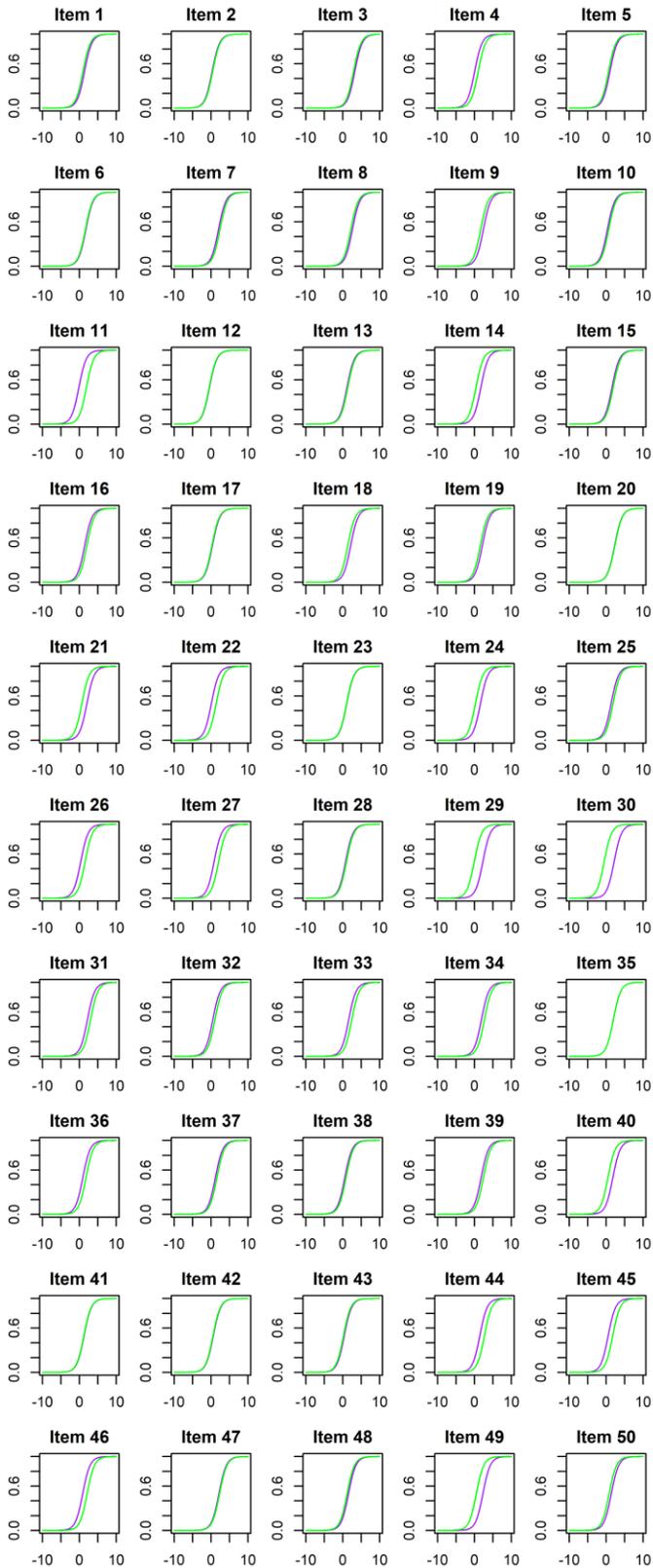


*Figure K Multi-paneled figure for the Imagination subscale of the four-factor model, with different kinds of information on the items on the y-axis, and the item numbers on the x-axis. The x-axis is ordered by the results of the Rasch regression model analysis, with the smallest DIF on the left (item 8), and the largest DIF on the right (item 3). The first panel (A) depicts the severity of DIF, where higher DIF indicates larger differences between groups, as measured in three analyses: Rasch mixture models (triangles), Rasch regression trees (circles), and traditional methods (crosses). The second panel (B) depicts several item characteristics: whether the item was negatively phrased (Negative, in empty squares), contained a word denoting frequency (Frequency, in filled squares), contained the word "very" (in empty circles), contained a word denoting difficulty (Difficulty, in filled circles), contained a comparison (Compare, in empty triangles), and/or was a reversely coded item (Recoded, in filled triangles). The third panel (C) depicts whether the items were included in the AQ-28 and the AQ-10. The fourth panel (D) depicts whether the items were identified as misfitting, or as showing DIF, in a previous study comparing groups. Those items with faint coloring were included in the versions used in these studies. Lundqvist and Lindner (2017) used all 50 items. Grove = Grove et al., (2017); Murray'14 = Murray et al. (2014), Murray'17a = Murray et al. (2017a), Murray'17b = Murray et al. (2017b), L&L = Lundqvist & Lindner (2017), MF = Misfit, DIF = Differential Item Functioning, AQ = Autism Spectrum Quotient.*



*Figure L Rasch regression tree for the Imagination subscale of the four-factor model. In the bottom plots, the normalized item difficulties are plotted for the different groups. The higher a particular point is, the more prone a person within that subgroup is to provide a response that is not typical of having difficulties with imagination; the lower, the more prone a person within that subgroup is to provide a response that is typical of having difficulties with imagination, all given equal values on having difficulties with imagination. The different symbols (square, circle, triangle) do not have separate meanings, but were chosen so the points can be more easily distinguished and the position can be compared between the four different subgroups.*

*Supplementary Material : Item Characteristic Curves*



*Figure M Item Characteristic Curves. On the x-axis, different levels of latent autistic traits are plotted. On the y-axis, the probability of providing the response that is typical of autism is plotted. All curves start at the bottom left, because those with very low autistic traits have a very low probability of providing the response typical of autism. All curves end at the top right, because those with very high autistic traits have a very high probability of providing the response typical of autism. Curves are plotted separately for the autism (purple), and non-autism groups (green). In a non-DIF scenario, only one curve is visible, as the two curves overlap.*