



Supplement of

A user perspective on the avalanche danger scale – insights from North America

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This document includes additional figures in support of the latent class analysis of the danger rating perception question.

This includes:

- AIC and BIC for latent class solutions with 2-9 classes (Figure S-1)
 - Overview flow chart highlighting how classes evolve from one class solution to the next (Figure S-2)
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- Visualization of each class solution (Figures S-3 to S-11).

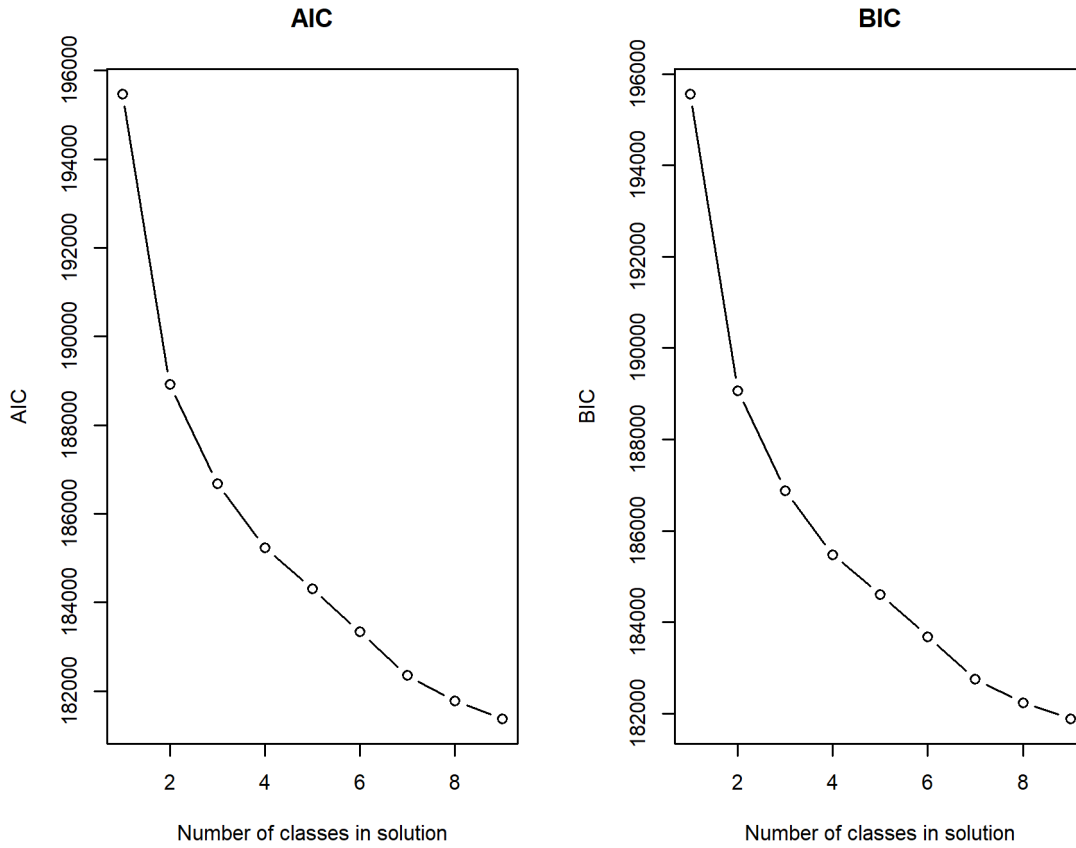
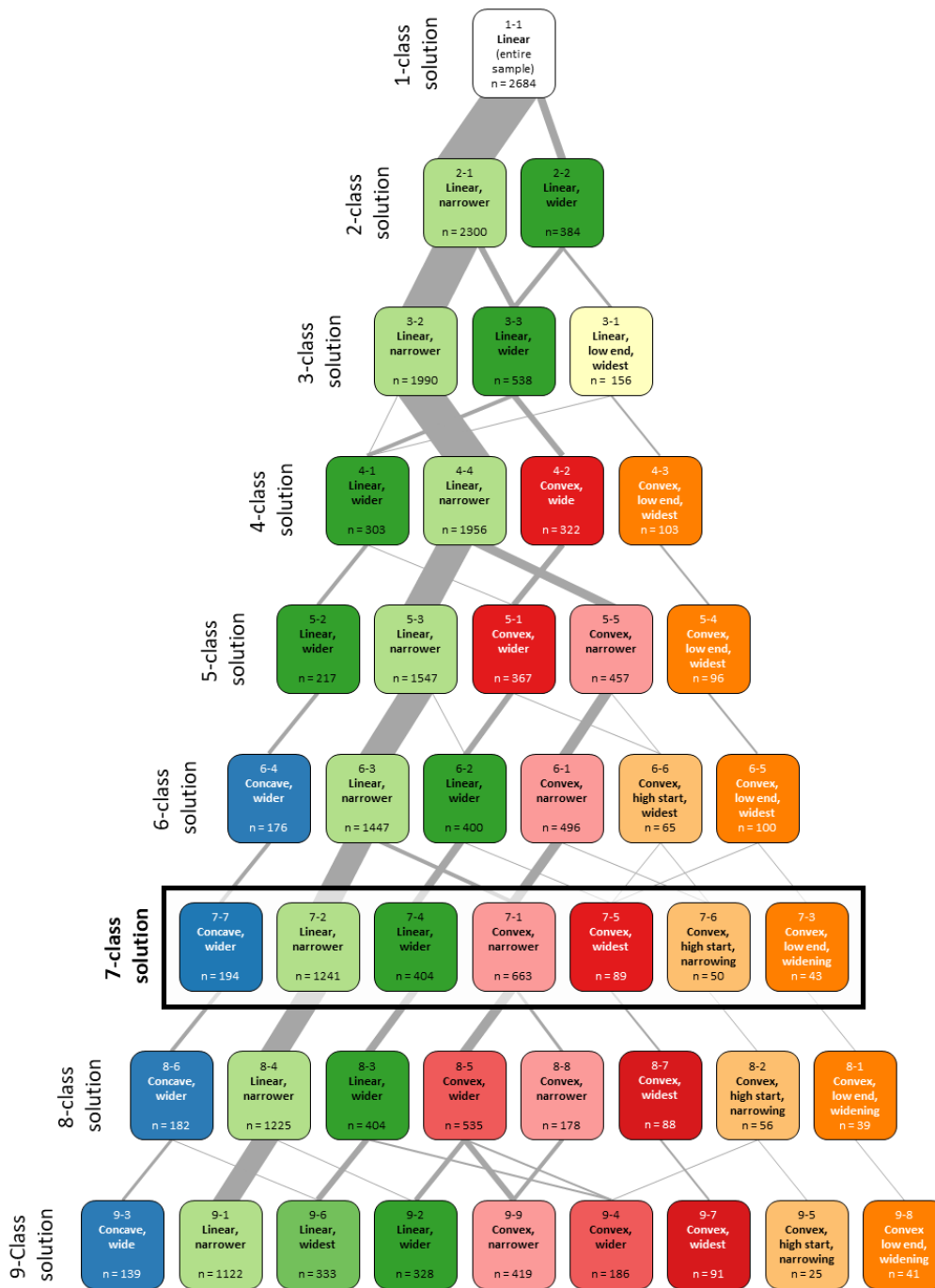


Figure S-1: AIC and BIC for latent class solutions with 2-9 classes.



10 **Figure S-2: Overview flow chart highlighting how classes evolved from one class solution to the next. Labels of classes include class**
identifiers, general description of perception pattern, and size of class. Classes are grouped and coloured based on their second
polynomial parameter estimate: concave (> 0.75; blues), linear (> -0.75 and < 0.75; greens), and convex (< -0.75; reds and oranges).
Terms for the width of the ranges are qualitative and relative within a single model. Lines indicate the size of participant
pathways between classes with the line width being proportional to the number of participants. Lines are only shown if the pathway
represents at least 10% of the class in the higher-class solution.
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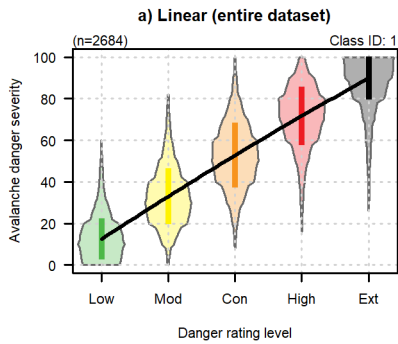


Figure S-3: Visualization of 1-class solution. Panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with this class. Overall sample size is shown above the top left corner of the charts, and class id above the top right corner.

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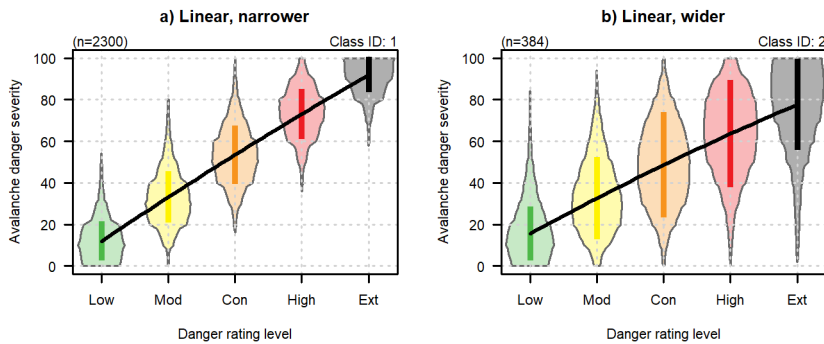
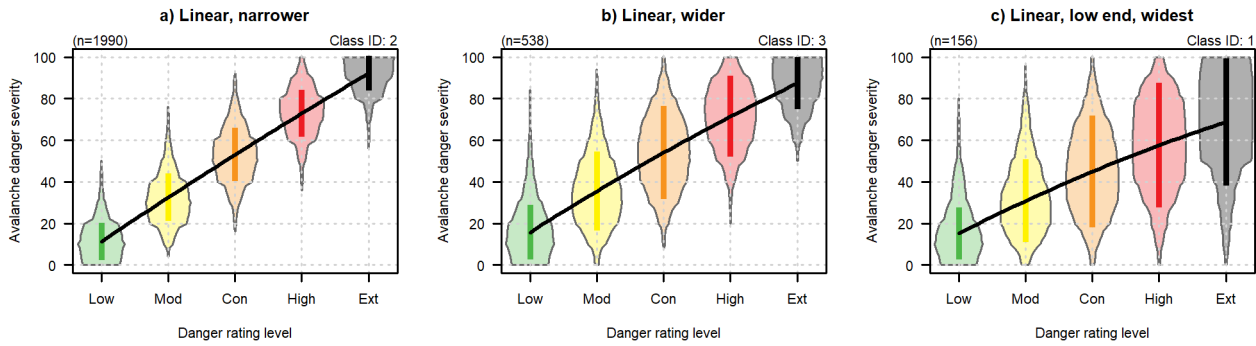
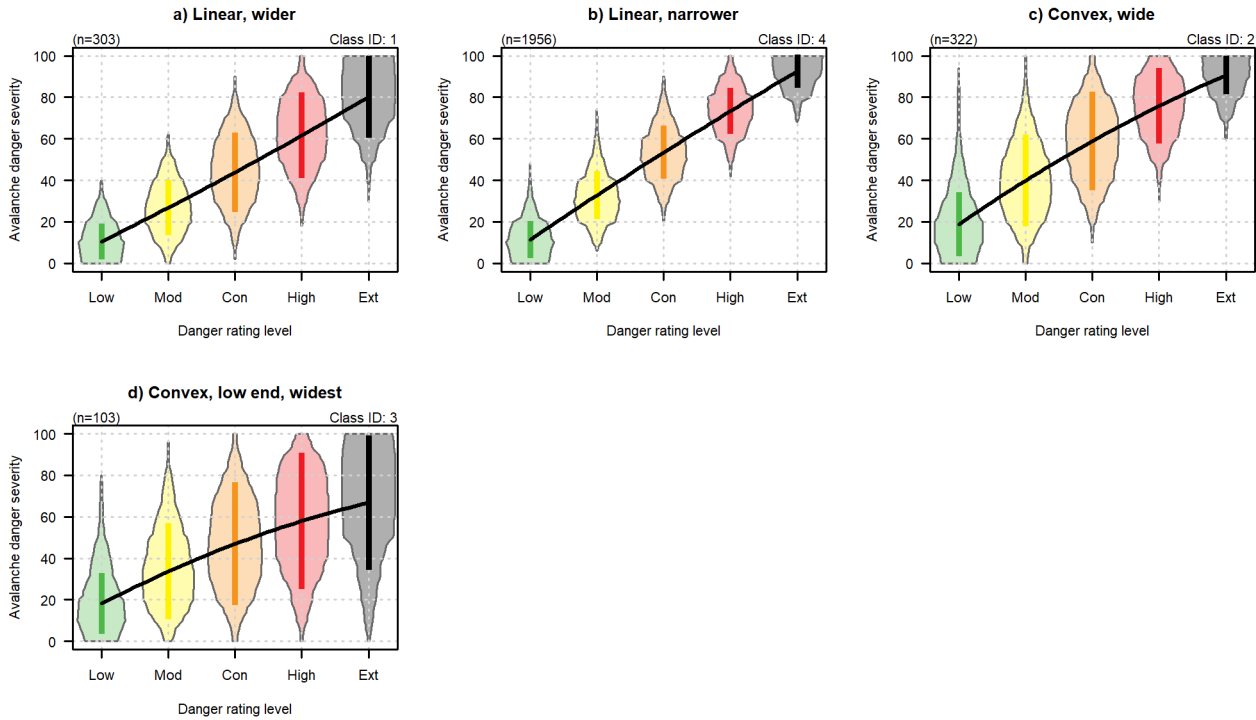


Figure S-4: Visualization of 2-class solution. Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.

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30 **Figure S-5: Visualization of 3-class solution.** Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.



35 **Figure S-6: Visualization of 4-class solution.** Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.

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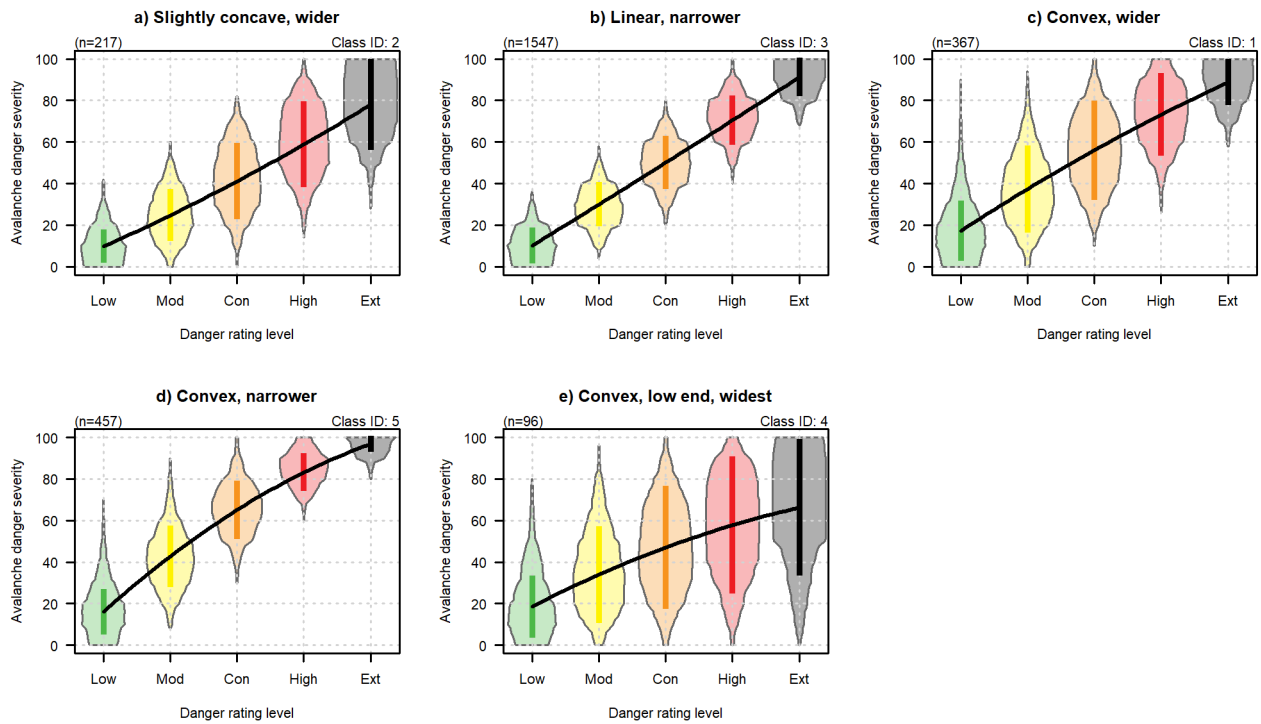
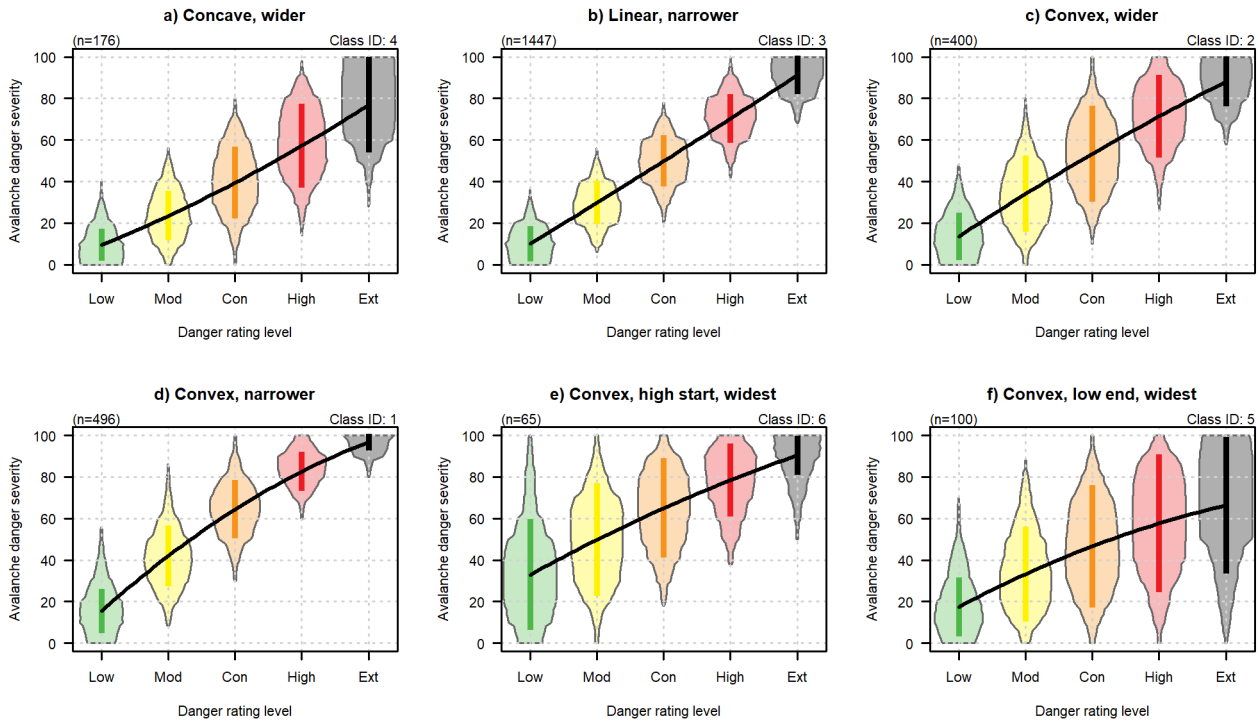
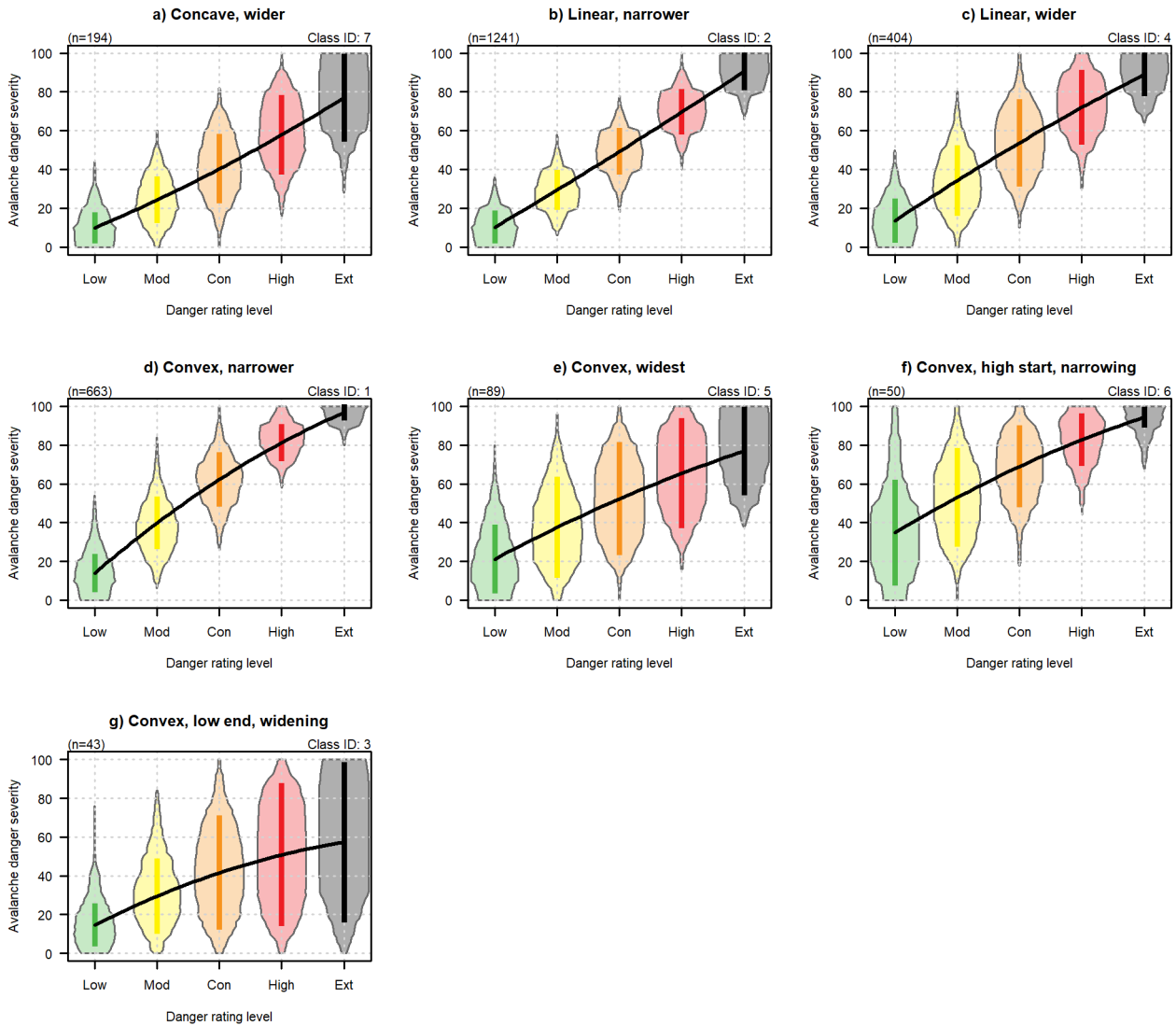


Figure S-7: Visualization of 5-class solution. Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.

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50 **Figure S-8: Visualization of 6-class solution.** Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.



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Figure S-9: Visualization of 7-class solution. Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.

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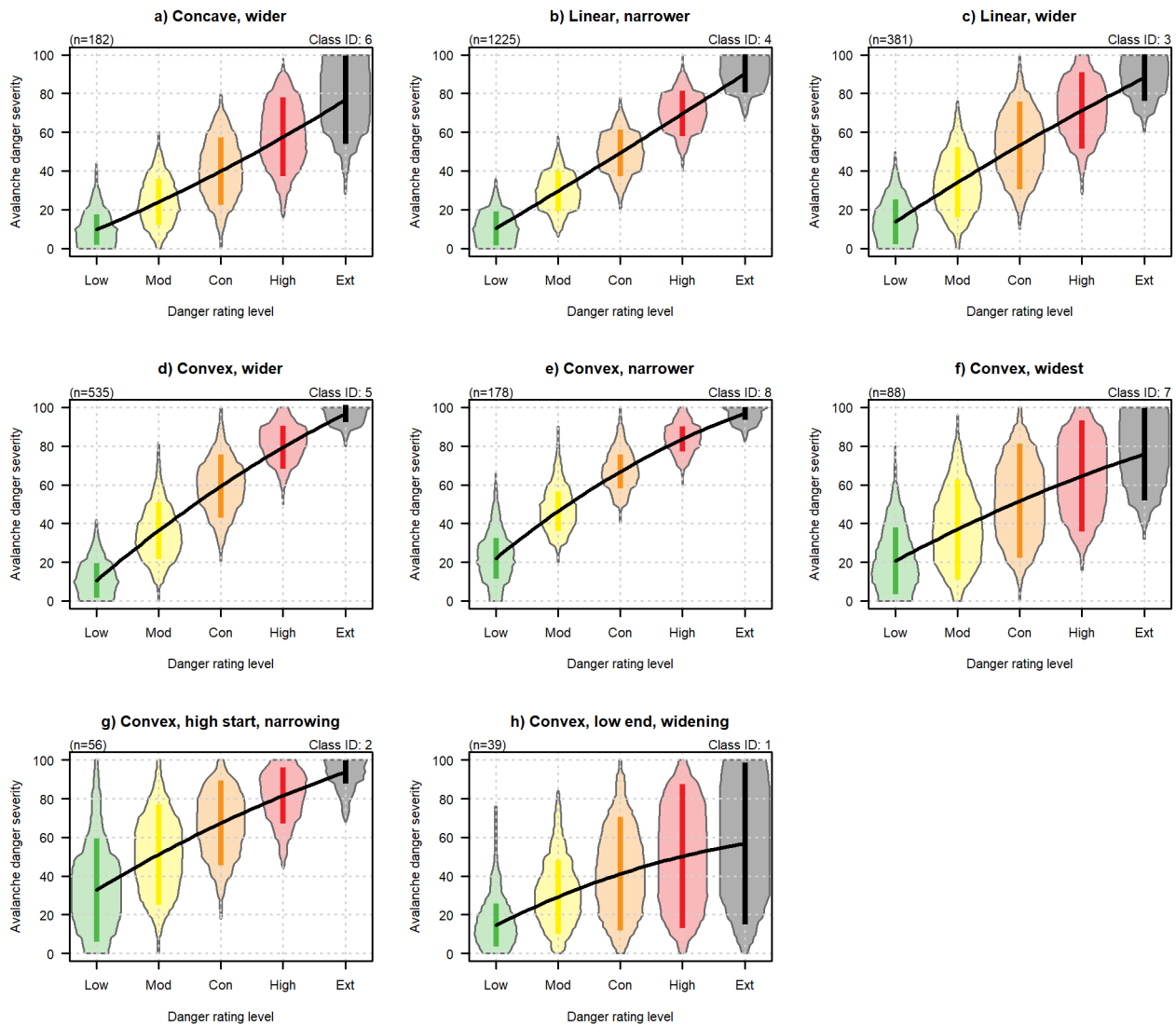
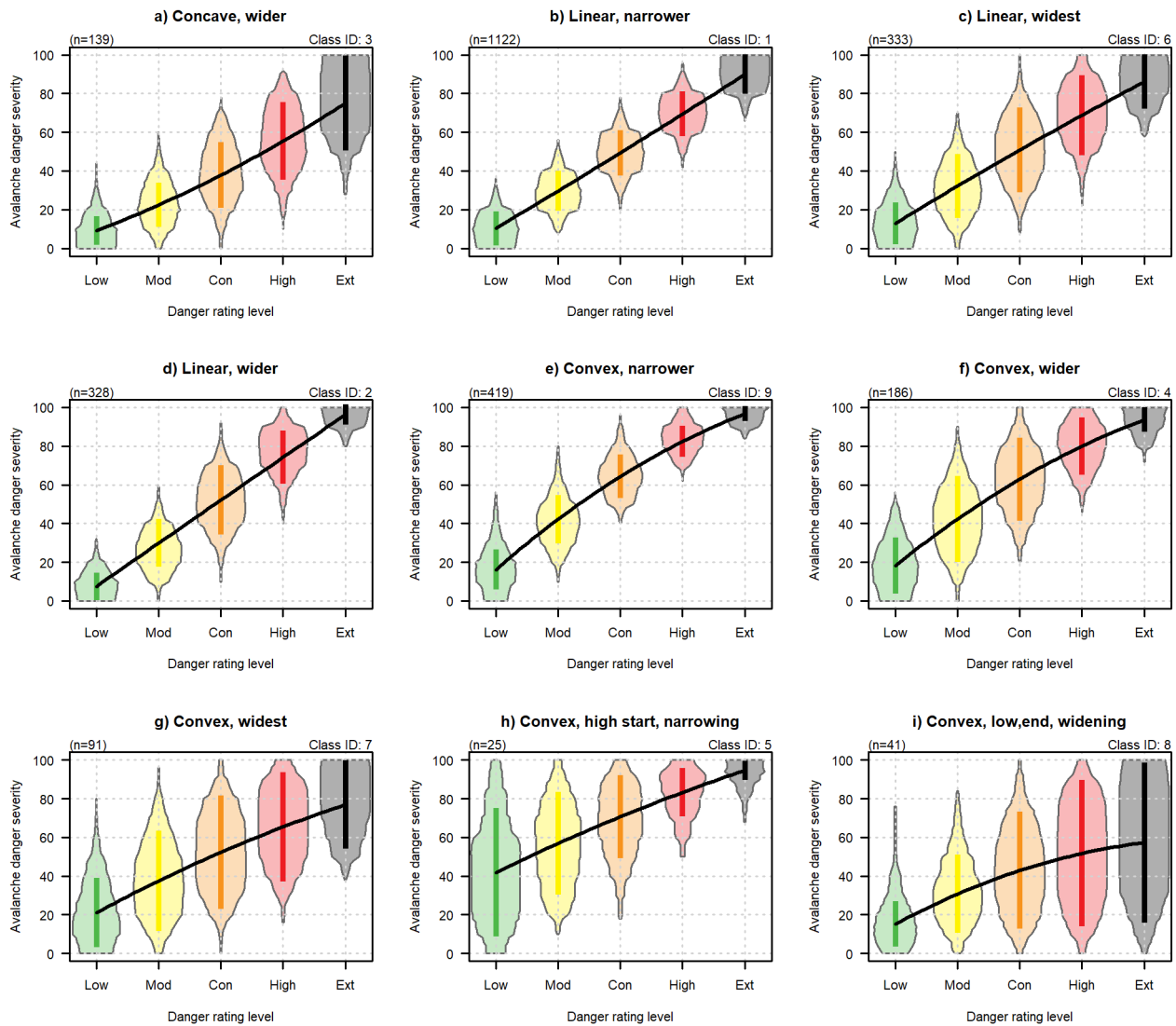


Figure S-10: Visualization of 8-class solution. Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.

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70 **Figure S-11: Visualization of 9-class solution.** Each panel presents the danger rating regression line (black line) and severity ranges for each level (thick vertical lines) from the regression analysis and the severity range distributions of participants' answers associated with the particular class. Classes are arranged by identified perception pattern (generally from concave to linear and convex) See Figure S-2 for related information. Class sizes are shown above the top left corner of the charts, and class ids above the top right corner.