Formatting Figures

Installing GIMP

- GIMP is a free and open-source image editing software for image manipulation and editing (https://www.gimp.org/). For the purposes of figure editing, you will not need to use all of the features available in GIMP. However, the most frequently used features are image cropping, resizing, changing resolution, saving in different formats to preserve quality, adding text/shapes, etc. They can be learned via online tutorials. Below are some links to helpful videos for getting started:

1. Windows 10: https://www.youtube.com/watch?v=V1LvSC5GZdY&t=69s&ab_channel=ParkerPhotographic
2. Mac: https://www.youtube.com/watch?v=OrCXp1MJLac&ab_channel=ParkerPhotogaphic
3. Task-by-task tutorials for beginners: https://www.youtube.com/watch?v=_wDDqs95TKY&list=PLqazFFzUAPc4vlTMJaF3Fnqh3pccSMnC4&ab_channel=TJFREE
4. General tutorial for beginners: https://www.youtube.com/results?search_query=gimp+tutorial

PowerPoint Settings

- Adjust your Microsoft PowerPoint settings to export images at the resolution of your choice. The following video tutorial demonstrates how to do this: https://www.youtube.com/watch?v=TEFJBeZmsCI&ab_channel=SlideCow
- The highest resolution supported by Microsoft 365 is 1000 dpi. The disadvantage of setting a 1000 dpi resolution is the large file size of all exported images. In addition, not all journals require a 1000 dpi resolution for all types of images. So once exported, it may be desirable to change the resolution in GIMP, Photoshop, or Daniel's XL Toolbox.

PRISMA diagrams

- Download and save the PRISMA diagram template: http://prisma-statement.org/PRISMAStatement/FlowDiagram.

A PRISMA diagram should be included for all systematic reviews and meta-analyses. Some journals require PRISMA diagrams in this specific template, others may not require them so long as the flowchart provides necessary details. In general, it is easiest to use the template to create PRISMA flowcharts.

Check journal for figure requirements:

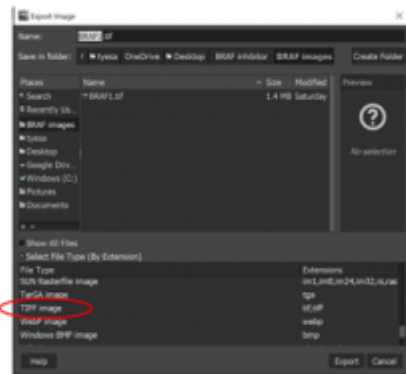- Maximum number of figures allowed in the main manuscript

- Required file format for different types of artwork
- Requirements for naming figure files
- Requirements for maximum file sizes (e.g., maximum of 50 MB per file)
- Required font styles
- Resolution for each type of artwork
- Recommended/required minimum/maximum image size
- Recommended/required minimum/maximum size of elements within images (e.g., minimum of 10 pt Arial font at final image size)
- Color scheme (RGB, CMYK, Greyscale, etc.)
- Maximum number of panels allowed
- Preferred labeling scheme for panels (e.g., "left" and "right" specified in the figure legend with no labels in the image vs. "A" and "B" shown directly in the image)

Helpful tips

- Check that the files are suitable for image editing and are of the highest quality available; sometimes you may need more information or original high-resolution files.
- Save the original files and edited files separately.
- Always make sure that image quality does not get impaired when making adjustments. An easy way to do this is by zooming in on specific elements and seeing if they are blurry compared to the original image at the same magnification.
- Always ensure that formatting does not interfere with image integrity/results that the image is portraying. This is especially important if changing the color scheme of the image.
- Double-check to make sure that all journal guidelines were followed and that the image is suitable for publication.

Some additional points to remember

- Preferred format for image export/saving edited images is .tiff (unless otherwise specified).To export as a .tiff file in Gimp, go to File > Export As > Select File Type By Extension.
- All images should be tightly cropped with minimal/no white space around them. This also helps to reduce file size. It can also help to create a transparent background if the image has a lot of nonessential white space (reduces file size and may help with other image editing procedures).
- For multipanel figures, whenever possible ensure that all images that make up the panel are the same width and height. This can be easily achieved in photoshop/GIMP.
- Pay close attention to the charges for colored figures if applicable.
- Some journals prefer black and white (greyscale) images unless color is absolutely necessary for that particular image.
- A sans-serif font such as Arial is generally preferred when embedding text in the image.
- Ensure consistent font type and size across images for the same manuscript/project.
- If using objects in the image (arrows, asterisks etc.) ensure that they are consistent in size and usage.
- Most journals will also require that any patient identifying information be hidden in images.
- When making PRISMA flowcharts, it is good practice to cross-check all numbers in the manuscript/excel sheet if they are available.

Creating a .tiff image in Gimp.