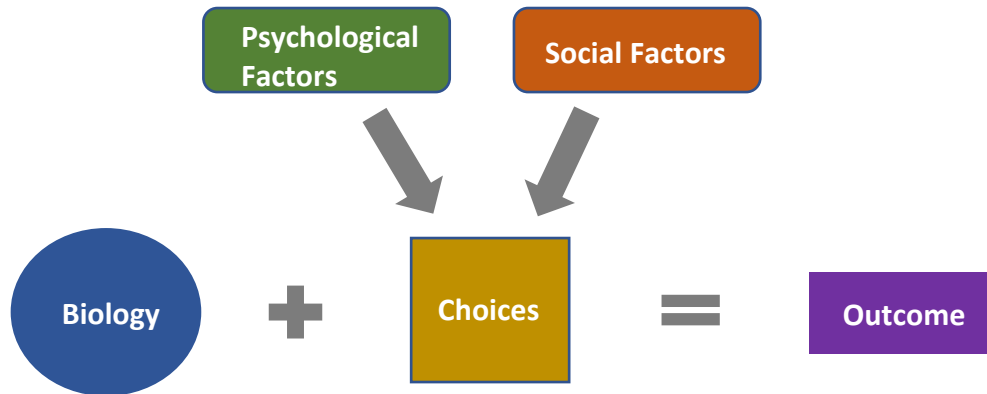


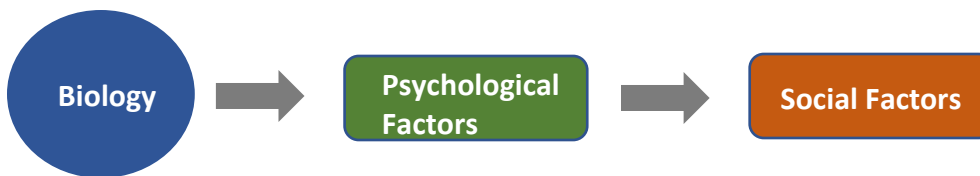


## More on the Lifestyle Risk Reduction Formula

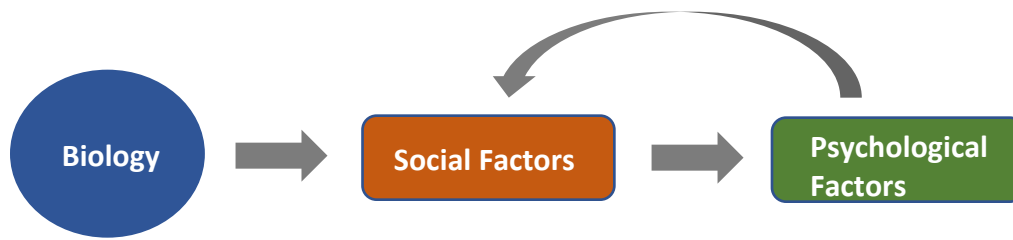


Occasionally, people will ask if the Lifestyle Risk Reduction Formula (shown above) is a simplified explanation for how lifestyle-related health problems like addiction develop. The answer is, “absolutely.” We intentionally simplified the Formula to make it more accessible. There are many complex interactions which occur, as detailed below. Nevertheless, we believe the Formula captures the essence of these interactions in a way that is accurate and useful, without being overwhelming.

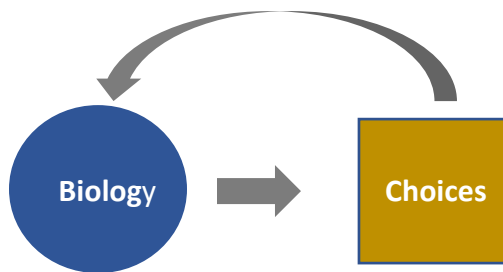
Biology influences social factors via genetics—who people choose to associate with is partly influenced by genetics, functioning through inherited psychological traits. Example: people who are more rebellious will tend to seek out like-minded persons.



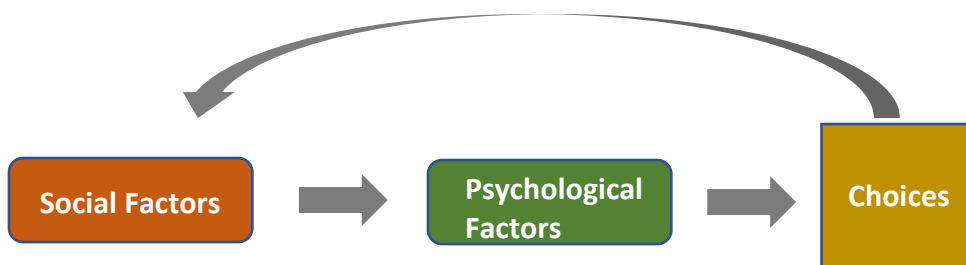
Biology influences social factors via physical traits. Examples: cute, happy babies are treated differently; people with distinctively different physical traits are typically treated differently—different job opportunities, tallest candidate typically wins in presidential elections; racism; and sexism. These differential social experiences then influence psychological factors like self-esteem and trust, which in turn influence future social interactions.



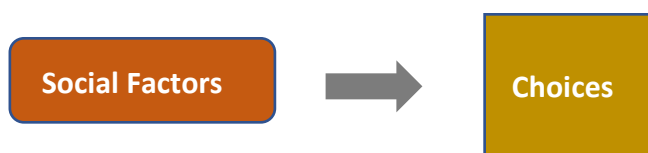
Biology influences choices which—in turn—change biology. For example, if I get great pleasure or other reward from using a substance, I am more likely to continue using that substance. Over time, my brain will change in variety of ways in response to my substance use.



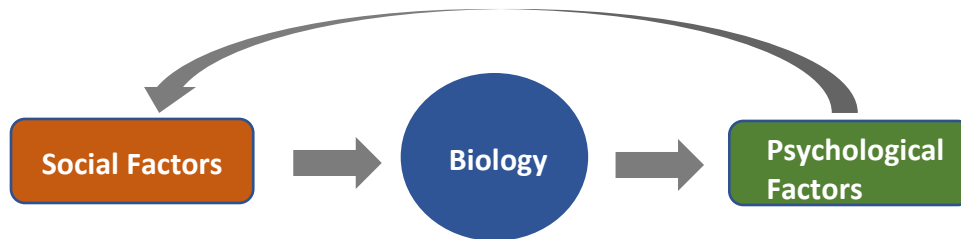
Social factors often influence psychological factors like values, expectancies, and perception of acceptability and prevalence of use, which then influence choices. In turn, choices influence future social factors (“they drink like I do, I want to get to know them”).



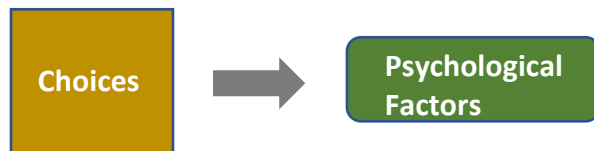
While social factors typically influence choices by affecting psychological factors as described above, social factors can also influence choices more directly. Example: strong social prohibition and strict policy with strong enforcement can lead to very limited availability of substances.



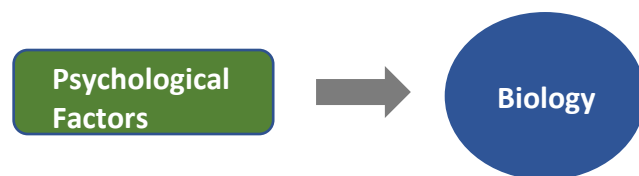
Social factors influence biology. Examples: poverty and pollution affect health; little environmental stimulation during early childhood affects intelligence, which affects other psychological factors and future opportunities. Also, health affects self-esteem and sense of hope, which affects future social factors (who people socialize with, job opportunities).



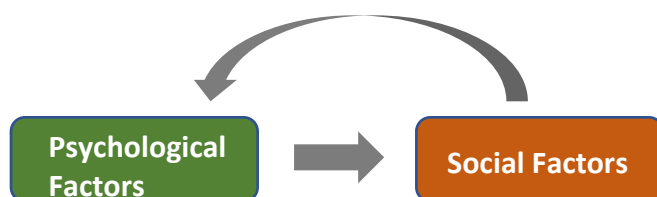
Choices can influence psychological factors while under the influence and afterwards. Example: I feel relaxed when I am drinking, followed by agitation due to the rebound effects. There is also evidence that high-risk choices can cause or exacerbate depression, anxiety, and schizophrenia.



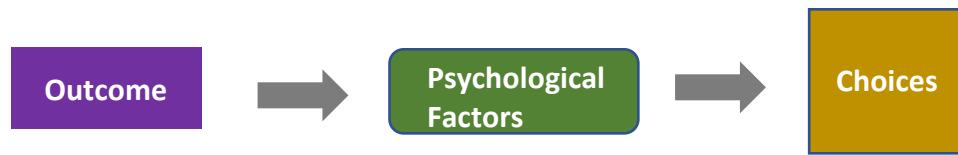
Psychological factors can change biology. Example: thoughts can change heart rate, which, over time, can affect health and longevity.



Thoughts like gratitude can improve psychological outlook, which—in turn—influences future social interactions; which then reinforce positive psychological factors.



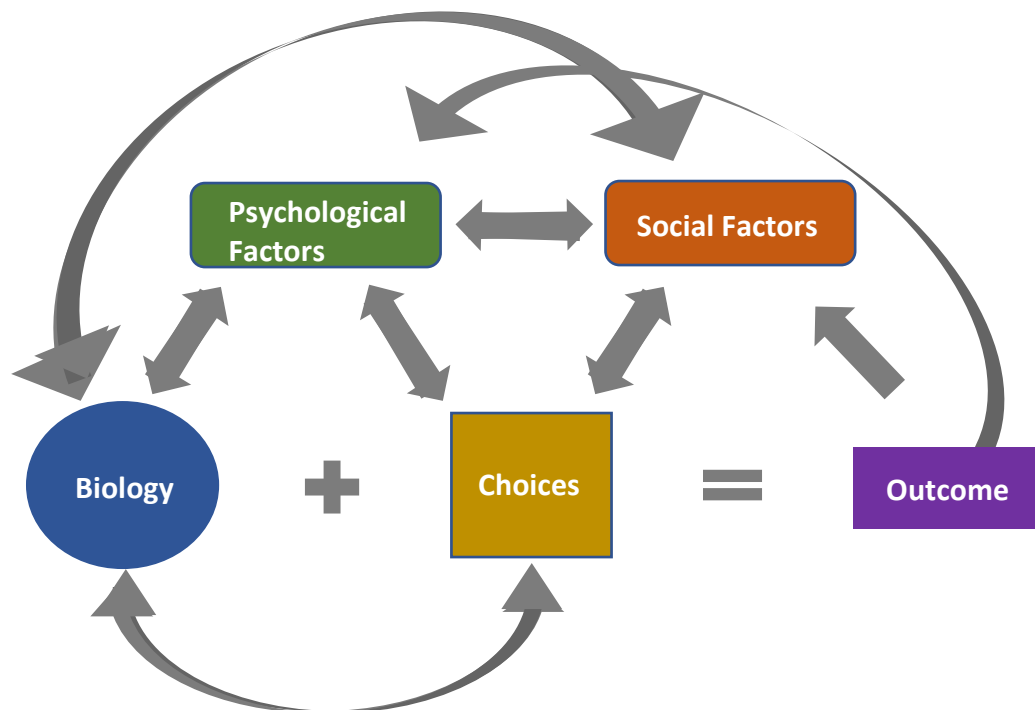
Outcomes like an arrest for impaired driving influence future choices via psychological factors (“I don’t want to experience this humiliation again”).



Outcomes influence social factors. Example: A person gets a DUI and is shunned by family and friends and/or loses a job. In turn, these changes in social factors affect psychological factors.



Putting these together, a more complete, but overwhelming, version of the LRR Formula would look something like this:



In either version of the Lifestyle Risk Reduction Formula, the heart of the Formula is biology plus choices equals outcome. Our power to protect what we value is in our choices.