Program on Science and Global Security, Princeton University
Nuclear Psychology Group

Reading Materials

February to May 2024

The SGS nuclear psychology reading and discussion group met for six sessions during Spring Semester 2024. The readings and summaries are provided below.

Session 1: People's reactions and the psychology of nuclear danger and the possibility of nuclear war

Slovic, P. & Lin, H. (2020). The Caveman and the Bomb in the Digital Age, in *Three Tweets to Midnight: Effects of the Global Information Ecosystem on the Risk of Nuclear Conflict* (pp. 39–62). Hoover Institution Press.

Shortly after the dawn of the nuclear era, psychologists and other behavioral scientists began the empirical study of the cognitive and social factors influencing human decision making in the face of risk. The findings are worrisome, identifying numerous cognitive limitations documenting a form of bounded rationality that falls far short of the optimistic assumptions that characterized earlier theorizing by economists and other proponents of rational choice explanations for human behavior.

Thompson, J. (1985). Reaction to Disaster. In *Psychological Aspects of Nuclear War* (pp. 8–32). British Psychological Society and John Wiley.

In order to assess the psychological effects of threatened or actual nuclear war the possible physical effects of such a disaster must be considered. Here some features have been identified for describing psychological reactions: threat, warning, impact, recoil and post-impact; which describe average reactions which may not occur in all people. No disaster experienced in recorded history resembles the potential destruction of major nuclear war. Nonetheless, past disasters can give us pointers to the likely responses of those who survive the immediate effects.

Fiske, S.T. (1987) People's Reactions to Nuclear War. Implications for Psychologists, *American Psychologist*, *42*(3), 207–217.

This seminal review describes available data that document the modal adult's beliefs, feelings, and actions regarding nuclear war. It examines the discrepancies between people's beliefs about the horrific possibility of nuclear war and their relative lack of affective and behavioral response. The article also reviews data on the possible psychological and social sources of those reactions. Finally, it contrasts the average citizen with the antinuclear activist and with the survivalist.

Session 2: Past and current public perceptions of nuclear weapons risks and behaviors

> Lytle, A. & Karl, K.L. (2020). Understanding Americans' Perceptions of Nuclear Weapons Risk and Subsequent Behavior. *International Journal of Communication*, *14*, 299-232.

The authors report on two large-scale surveys that include several thousand US participants: Participants perceive the chance of being affected by a nuclear attack in their lifetime almost as high as 50%, a finding already reported by Fiske in 1987. The authors find that age and media usage are important individual characteristics that affect perceptions of nuclear risk, apathy about the topic, as well as related behavioral intentions and actions.

> Fiske, S.T. (1987) People's Reactions to Nuclear War. Implications for Psychologists, *American Psychologist*, *42*(3), 207–217.

[Note that this article from Session 1 aided a more in-depth understanding of differences in peoples' views, as compared to before the end of cold war]. This article reviews available data that document the modal adult's beliefs, feelings, and actions regarding nuclear war. It examines the discrepancies between people's beliefs about the horrific possibility of nuclear war and their relative lack of affective and behavioral response. The article also reviews data on the possible psychological and social sources of those reactions. Finally, it contrasts the average citizen with the antinuclear activist and with the survivalist.

Session 3: Psychic numbing and virtuous violence

> Slovic, P. & Västfjäll, D. (2015), "The more who die, the less we care. Psychic numbing and genocide" in S. Kaul, S. & D. Kim, *Imagining Human Rights*. De Gruyter (2015).
> https://www.degruyter.com/document/doi/10.1515/9783110376616/html

Catastrophes, such as those caused by nuclear weapons, come with large numbers of fatalities. The authors summarize empirical evidence showing that with an increasing number of fatalities, individuals become insensitive to such statistics, in contrast to models of 'rational' decision making. Large numbers seem to lack meaning and to be underweighted in decisions unless they convey feeling (affect). In turn, communicating individual suffering increases empathy and pro-social behavior. Combining statistics with narratives or affective images is considered as a means for overcoming such psychological 'numbness'.

> Slovic, P., Mertz, C. K., Markowitz, D. M., Quist, A., & Västfjäll, D. (2020) "Virtuous violence from the war room to death row." *Proceedings of the National Academy of Sciences*, 117(34), 20474–20482.
> https://www.pnas.org/doi/full/10.1073/pnas.2001583117

Two recent surveys about the use of nuclear and conventional weapons including members of the US American public (Democrats and Republicans) do not reflect a nuclear taboo. Support for killing enemy civilians and combatants is deeply divided along partisan political lines, linked to whether in participants' views, victims are distant and inhuman, and to whether the nuclear strike is ethical. Correlation between approval of mass killing with nuclear or conventional weapons and approval of killing a single individual via the death penalty was conjoined with support for deporting immigrants, restricting abortion, and preserving gun ownership. Direct contact with those who are threatening and offensive may help to reduce the desire to punish and consequently, divisive violence.

Session 4: Mechanisms driving formation of beliefs and attitudes and how and why people avoid information

> Sloman, S.A. & Rabb, N. (2019). Thought as a Determinant of Political Opinion. *Cognition*, *188*, 1-7.https://doi.org/10.1016/j.cognition.2019.02.014

Cognitive scientists study how people form beliefs and attitudes. This article provides an overview of how they examine the dynamics of opinion change. This includes deliberative reasoning versus gut feelings or 'affect', but also the social-cultural context and partisanship: Individuals are embedded into communities, and communities are seen as a broad and rich database that provide individuals with skills and knowledge, and therefore also shape political opinion.

> Foust, J.L. and Taber, J.M. (2023). Information Avoidance: Past Perspectives and Future Directions. *Perspectives on Psychological Science*, 1–23. https://doi.org/10.1177/17456916231197668

Scholars typically have assumed that given the chance to learn useful information (i.e., information with utility), the rational—and thus adaptive—choice was to learn that information. But people can choose not to seek information. It is important to understand how and why people avoid information, for individual reasons and for social reasons. This review provides a cross-disciplinary historical account of theories and empirical research on information avoidance and information seeking in multiple fields. It provides a framework of antecedents of information avoidance, categorized into beliefs about the information (e.g., risk perceptions), beliefs about oneself (e.g., coping resources), and social and situational factors (e.g., social norms).

Session 5: Psychological motivations linked to activism and collective action

> Shuman, E., Goldenberg, A., Saguy, T., Halperin, E., & van Zomeren, M. (2024). When Are Social Protests Effective? *Trends in Cognitive Sciences*, 28 (3), 252–263. https://doi.org/10.1016/j.tics.2023.10.003

The authors differentiate among different protest types and link them to central topics in psychological research such as social identity, and costs of participation. Authors discuss to what end different protest types are effective. Their findings suggest that normative nonviolent forms of action may be most effective in mobilizing sympathetic target audiences. More extreme disruptive action may be effective at motivating policy concessions from resistant target audiences.

> Weber, E. (2013). Seeing is Believing. *Nature Climate Change*, *3*, 312–313. https://doi.org/10.1038/nclimate1845

Personal experiences of risk may shape peoples' views differently, depending on their initial beliefs. Using the example of climate change, Weber describes evidence that that personal experience is more likely to influence Americans with no strong beliefs about climate change than those with firm beliefs.

Further reading:
Downtown, J. & Wehr, P. (1997). The Persistent Activist. How Peace Commitment Develops and Survives. Chapters 3: Availability and Opportunity (p.35-54) and Chapter 5: Vision, Effectiveness and Urgency (p. 73-92).

Session 6: Reflections on the past and future of nuclear psychology as a field of study

This session summarized the topics and main discussion points from previous sessions. It provided time for sharing reflections about how readings from psychology changed participants' views on how individuals react to nuclear danger. It also discussed topics that had not been covered and would merit study.