## Models of Attitude Change

Understanding attitude change in a broader context provides useful background and a starting point for understanding how polarized beliefs specifically can be changed. Research on attitude change has historically been aggregated under two broad umbrellas, attitude change based on the effects of persuasion, and attitude change based on social influence (O’Keefe, 2016). In a broad sense, persuasion here means influencing based on the strength of detailed argumentation, irrespective of the source or context of the interaction. In contrast, social influence relies on appeals about the position of the source (e.g., from the head of the center of disease control). The Elaboration Likelihood Model of persuasion (ELM) developed by Petty and Cacioppo (1980) is a dual process model that dovetails these two forms of attitude change (either based on social influence, or strength of detailed argumentation) into a single system. The ELM posits that attitude change can occur both when individuals are actively thinking about the content of a message (high amount of cognition) and when individuals are not actively thinking about the content of a message (low amount of cognition), but that the process of attitude change is different in both cases.

In the ELM, the central route is a multi-step process used in cases involving high amounts of effortful cognitive activity (i.e. mental elaboration). The central route begins when the individual has reached enough motivation to actively process the persuasive argumentation given. This motivation can arise from the personal relevance of an issue (e.g., civil rights in the 60’s for African Americans), or can simply be a product of high need for cognition. Once the individual chooses to pay attention, if their ability to process the information is high (i.e., no distractions, high domain knowledge) then integration of the newly provided information can result in increases in favorable or unfavorable thoughts (Petty & Cacioppo, 1986). The increased proliferation of these favorable/unfavorable thoughts lead to changes in cognitive structure thereby lead to positive or negative attitude change, respectively. Appropriately, attitude changes that occur through the central route are easier to access from memory, held with higher confidence, are more persistent over time, are more predictive of behavior, and more resistant to change (Petty et al., 2009; Petty & Krosnick 1995). These differences are reflective of the greater cognitive investment that occurs under the central route of attitude change.

In comparison, the ELM posits that the multi-step process of the peripheral route is used in cases of low cognitive activity. It is unrealistic to expect individuals to always be engaged with persuasive messaging at the level that is generally considered necessary for the central route to occur, thus, the peripheral route is engaged when the individual is either unmotivated or unable to process the incoming information. The peripheral route is primarily comprised of simple cues that influence attitudes. For example, elements in a persuasive message (e.g., upbeat pop in the background) can prompt the feeling of positive emotions (e.g., happiness), that are then associated with the advocated position. Likewise, persuasion coming from a trustworthy source (e.g., Center for Disease Control, Internal Revenue Service, etc.) can trigger simple heuristics such as “trust the experts” that is used in lieu of active cognition to judge the message (Chaiken 1987). The process of the peripheral route is remarkably similar to classical conditioning, and these associations, while qualitatively different than those developed through the central route, do indeed result in changes of attitude. Changes resulting from the peripheral route, as compared to the central route, are generally less accessible, less enduring, and not as resistant to subsequent ‘attacking’ messages (Petty et al., 1995).

The ELM integrates well with the psychological literature more broadly, as it neatly aligns with the contemporary consensus behind the dual process theory of belief change (an adaptation of the dual process theory of Kahneman & Tversky, 1974), which posits that under conditions of low motivation or lack of ability, attitude judgements are based on heuristics and shortcuts (System 1 thinking, e.g., Mom’s always right!) and in conditions of high motivation and care, judgement is based on systematic assessment (System 2 thinking) of the information (Chen & Chaiken 1999). Prior research indicates that attitude judgements based on System 2 thinking have significantly more confidence, while those based on System 1 thinking were less resistant to change and less stable (Petty & Wegener 1999); Kassin & Kiechel (1996) found that in a reaction time task relying either on system 1 or system 2 thinking, false accusations of negligence were convincing (e.g., the subject admitted that they did not ‘hit the button’ even if they did), but only when individuals were relying on System 1 thinking.

An alternative model for attitude change labeled the ‘Unimodel’ posited by Kruglanski and Thompson (1999) claims that both cues/heuristics and message argumentation are parts of a larger category of information, defined as ‘persuasive evidence’. Thus, the content of the information itself, and not the route of processing that is important. The Unimodel states that differing information contents (e.g., is this a heuristic, or a detailed argument?) are analogous to whipped cream in a can versus whipped cream in a tub; the distinctions between them are irrelevant insofar as it relates to how ‘persuasive evidence’ works to change minds. However, recent studies indicate that the Unimodel has not been shown to sufficiently explain attitude change beyond the dual process models (Hedhli, 2022). The dual process model has been shown to be more predictive than a unimodal framework in several studies examining direct practical applications of advertising, retail experiences, and branding (Maheswaran, Mackie,and Chaiken 1992; Richard and Chebat 2016). This literature indicates that the source of the cue in an advertisement (e.g., famous football player) is an especially influential cue for persuasion in conditions of low cognitive capacity; likewise, that the persuasive function of a ‘brand name’ significantly increases when the recipient is highly engaged, but is significantly blunted when the recipient is more passive.

Attitude change can also occur on a societal level, where generational changes reflect commensurate changes in attitudes. For example, political polarization has increased significantly for 12th graders in the 2010s as compared to prior decades (Twenge et al., 2016), or the “Obama Effect” from 1992-2008 wherein election surveys indicated that amongst white participants, belief in the intelligence and work ethic of Black Americans significantly increased (Welch & Sigelman, 2011). In general, attitude change can originate from social pressures (either individual peers or society more broadly) or from information describing the attitude object (persuasive, fact based, argumentation).