**Descriptions of seven types of advice and possible prompts**

**Legitimization of Distress**

This communication approach focuses on validating the individual’s emotional experience by explicitly recognizing their feelings as normal and appropriate. Key elements include acknowledging feelings as reasonable responses to their situation, validating the genuine difficulty of their experience, and assuring them that expressing these struggles is acceptable and expected in the recovery process. This approach helps reduce shame, blame, and isolation by normalizing emotional responses to recovery challenges.

Prompt: The message should use a “Legitimization of Distress” approach by emphasizing that experiencing challenges, doubts, and strong feelings during recovery is normal and acceptable. Focus on conveying that these experiences are valid and expected, while maintaining a supportive and validating tone that reduces shame and isolation. Avoid naming specific emotions like guilt or fear, and do not provide direct advice using words such as “should” or “must.” Keep the overall message affirming and empathetic.

**Caring / Supportive**

This communication approach emphasizes establishing connection and demonstrating genuine concern. Key elements include expressing acceptance without judgment, showing specific concern for the individual’s current situation, clearly communicating availability and willingness to provide support, and conveying partnership in their recovery journey. This approach creates psychological safety and sense of acceptance while avoiding claims of complete understanding of their unique experience. Reminder that this app is for supporting you.

Prompt: The message should use a “Caring / Supportive” approach by emphasizing connection and genuine concern, expressing acceptance without judgment, showing specific concern for their current situation, communicating a willingness to provide support, and conveying a sense of partnership in their recovery path or road to change. Include a reminder that this app is here to offer support. Avoid giving direct advice using words like “should” or “must,” and maintain a warm, supportive, and non-judgmental tone.

### Encouraging/feasibility: Response Efficacy (the tool is effective)

### This communication approach highlights the effectiveness of specific strategies or tools in helping them move forward. Emphasizes *why* a recommended approach works or *how* it can be helpful. Should build confidence that engaging with the app will make a difference. Mention how the coping app has been shown to help people reduce cravings, feel in control, or manage stress. Reinforce the idea that these methods have real benefits, research, or success behind them. Emphasizing the effectiveness of recommended coping strategies and reinforcing that working with the app will help navigate their recovery journey effectively.

### Prompt: The message should take an “Response Efficacy” approach by emphasizing how specific coping strategies or tools within the app have been shown to help people reduce cravings, feel in control, and manage stress. Highlight why these methods work or reinforcing the real benefits and success behind them. Build confidence in the app’s effectiveness without or giving direct advice using words like “should” or “must.”

### Encouraging/feasibility: Self Efficacy (you have the ability to do it- focus on person and not technique)

This communication approach highlights the individual’s capabilities to use the app effectively. Key elements include focusing on the person’s existing strengths and abilities, emphasizing they have the capability to stick with the app, and reinforcing their capacity to navigate their recovery journey effectively. This approach builds self-efficacy by making recovery actions feel attainable rather than overwhelming. It highlights that they have the ability engage effectively with the app to manage their recovery. Statements that show recovery steps are within their reach (“You have the skills to handle these moments.” or “you have the ability to build on past success”).

Prompt: The message should use a “Self-Efficacy” approach by emphasizing the individual’s strengths and abilities to engage effectively with the app. Highlight that they have the capacity to stick with the app’s features, navigate recovery challenges, and build on their past successes. Avoid giving direct advice using words like “should” or “must.” Make the overall tone optimistic and focused on their personal capability and self-efficacy to stick with the app or improve.

### Acknowledgement of Feelings

This communication approach centers on demonstrating attentive listening and encouraging emotional exploration without imposing interpretations. Key elements include showing genuine interest in the individual’s emotional experience, offering thoughtful hypotheses about their feelings without prescriptive language, reflecting their emotional responses accurately, and encouraging continued reflection in a non-interrogative manner. This approach facilitates emotional processing through validation and guided self-exploration.

Prompt: The message should use an “Acknowledgement of Feelings” approach by demonstrating attentive listening and encouraging emotional exploration without imposing interpretations. Show genuine interest in the individual’s emotional experience, offer thoughtful hypotheses about their feelings without prescriptive language, reflect their emotional responses accurately, and encourage continued reflection in a non-interrogative manner. Avoid giving direct advice (such as saying “should” or “must”), and keep the overall tone supportive, validating, and focused on self-exploration.

**Value Affirmation**

Try to align working on recovery through the app with values that are important to them. Do not assume what these values are, but ask them to remember why they started on working on recovery and what values are guiding their recovery (family, career, well-being, health, etc.). Try to align recovery and change with what deeply matters to them and how recovery will help achieve those values.

Prompt: The message should use a “Value Affirmation” approach by highlighting the person’s deeper life priorities—such as family, career, health, or personal well-being—and connecting these values to engaging with the app. Emphasize how taking steps in recovery can support those values and strengthen their sense of purpose and work to affirm this values. Avoid giving direct advice and using words like “should” or “must,” and maintain a positive, respectful tone that encourages the individual to see how the app aligns with what matters most to them.

**Norms**

This communication approach uses social proof and normative influence to highlight that similar others have effectively used the app to reduce their cravings and manage stress. Acknowledge that *others* with comparable experiences have seen positive changes. Should let them know that they are not alone, that similar others are doing what they have done, and that similar others benefited from the app. Reinforce a sense of belonging and shared journey.

Prompt: The message should use a “Norms” approach by emphasizing how others with comparable experiences have successfully used the app to reduce cravings and manage stress, and by highlighting that the person is not alone in this process. Acknowledge that similar individuals have also faced challenges but found encouragement and progress through the app. Avoid giving direct advice using words like “should” or “must,” and reinforce a sense of belonging and shared progress.

**Possible Orthogonal Variables-----------------------------------------**

1. **Level of Positive Tone**

People generally more receptive to positive tone. We have generally used LIWC to measure this. Could vary from baseline positivity to slightly above normal. Probably avoid negative tone or too positive.

1. **Formality of Tone- Peer vs. authority; friend vs. clinician**

Fitzpatrick, K. K., Darcy, A., & Vierhile, M. (2017). Delivering cognitive behavior therapy to young adults with symptoms of depression and anxiety using a fully automated conversational agent (Woebot): a randomized controlled trial. *JMIR mental health*, 4(2), e7785.

In the discussion part, it mentioned: *The number of participants reporting that the bot felt empathic is noteworthy, and comments that referred to the bot as “he,” “a friend,” and a “fun little dude” suggest that the perceived source of empathy was Woebot rather than the bot’s developers. This is especially noteworthy since a purposefully robotic name “Woebot” was chosen to emphasize the nonhuman nature of the agent. This is in line with other work that suggests that therapeutic relationship can be established between humans and nonhuman agents in the context of health and mental health.*

Bickmore, T., Gruber, A., & Picard, R. (2005). Establishing the computer–patient working alliance in automated health behavior change interventions. *Patient education and counseling*, *59*(1), 21-30.

In this study, the agent plays the role of an exercise advisor that interacts with patients on a daily basis to motivate them to exercise more. It mentioned: *people tend to anthropomorphize complex technology even when designers do not intend this to happen. In a qualitative study of user perceptions of an telephony-based health behavior intervention system, Kaplan et al. found that users not only talked about the system using anthropomorphic terms (e.g., using personal pronouns), they described the system in ways indicative of having a personal relationship with it (e.g., “friend”, “helper”, “mentor”) and seemed to be concerned about impression management (e.g., choosing to only interact with the system on days in which they met the system's health behavior goals).*

1. **Gain or Loss Framing**

Lots of research on persuasive messages of gain or loss frames; if interested, could expand on that research. A gain frame would focus on what they stand to gain by using the app, while a loss frame may focus on negative consequences of not following recommendations or what they have to lose. This may interact with level of risk: loss frame may be more effective with high risk, while gain frame may be more effective with low risk.

**Main ideas of Gain or Loss Framing**

Gain or loss framing, based on Prospect Theory (Kahneman & Tversky, 1979), suggests that people evaluate decisions not in absolute terms, but relative to a reference point, such as their current habits, goals, or expectations. Key effects include: (a) Loss aversion—individuals experience the pain of losses more intensely than the pleasure of equivalent gains, typically at a 2:1 ratio (Tversky & Kahneman, 1991). For people trying to quit drinking, the perceived loss of comfort, social bonding, or routine may outweigh the initial health or emotional gains, making early recovery feel disproportionately difficult.

(b) Risk asymmetry—when outcomes are framed as gains (e.g., “Staying sober improves your sleep and energy”), people tend to avoid risk and maintain positive behavior. But when framed as losses (e.g., “Drinking again will undo all your progress”), they are more likely to take risks to avoid a certain negative outcome.

(c) Framing effects—the same information can lead to different decisions depending on how it is framed. For instance, telling someone “You’ve gained 3 months of liver recovery” (gain frame) versus “One drink will cost you 3 months of liver recovery” (loss frame) can lead to opposite emotional and behavioral responses, even though the fact is the same (Levin et al., 1998).

**Dynamic Risk States and Framing Strategies for Alcohol Intervention**

Framing strategies must be adapted to the individual’s relapse risk and recovery trajectory. For **high and increased risk** individuals, a mixed frame combining reminders of potential losses (“Relapse delays liver repair”) with reinforcement of recent gains (“Your sleep quality has improved by 40%”) may help prevent complacency. For **low and increased** risk individuals, stronger loss framing (“One drink = 50% delay in recovery”) may help disrupt overconfidence. **High and decreasing** risk individuals may benefit from pure loss frames to underscore the dangers of relapse, while **low and decrease risk** individuals may respond better to gain-framed identity reinforcement (“Keep going and you’re becoming a role model for others”).

Prompts:

**1. "gain" – Reinforce the benefits of sobriety using gain framing**

*"gain" = "highlight the positive outcomes of staying sober by emphasizing concrete benefits (e.g., improved sleep, better relationships, financial savings) and reinforcing how each day of sobriety contributes to a healthier and more stable future."*

**2. "loss" – Emphasize the costs of relapse using loss framing**

*"loss" = "underscore the negative consequences of returning to alcohol use by focusing on what could be lost—such as health progress, trust from others, or personal goals—and framing relapse as a setback from hard-earned progress."*

**3. "hybrid" – Combine gain and loss framing for balanced motivation**

*"hybrid" = "use both gain and loss frames to keep motivation balanced: remind the person what they've achieved and could continue gaining, while also gently warning about what could be lost if relapse occurs."*

1. **Autonomy acknowledgement**

This could be moved to a type of supportive communication or it could be an orthogonal variable on whether or not autonomy is emphasized. Generally people may reject advice because they feel like it is a threat to their autonomy or telling them what to do. This increases resistance and defensiveness. In the advice literature, this is called negative face threat. Autonomy acknowledge would remind the recipient that whether you accept recommendations or engage in the behavior is up to them. Avoid “should” and “must” language and emphasize that they know themselves best and it is their decision and that they have option of how to use the app.