

# Positive Reframing of Psychosis Risk Is Seen as More Beneficial and Less Harmful Than Negative Framing by Clinicians: An Experimental Videotaped Simulated Feedback Study

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**Background and Hypothesis:** Recent studies show that, despite providing some relief, feedback about being at risk for psychosis often triggers negative emotional reactions. Inspired by Tversky and Kahneman's (1981) work on the framing effect and medical framings that favors positive framing like “life-threatening” over “high-risk for death,” this study tested the hypothesis that positive reframing of psychosis risk (PR) could alleviate these concerns. To establish the justifiability and feasibility of testing this hypothesis with patients and their families, the study first sought to test whether mental health professionals (MHPs) view positive framing as superior to present state-of-the-art approaches. **Study Design:** The study used an experimental design utilizing a simulated feedback session, recorded with professional actors, featuring a clinician, an adolescent, and his mother. One hundred forty-eight MHPs were randomly assigned to view either negatively or positively framed feedback and were asked about its induced impact on the adolescent and mother. **Study Results:** The study results supported our main hypothesis, indicating significant benefits of positive framing over negative in areas like empathy, stress reduction, stigma, help-seeking, and hope. Contrary to our second hypothesis, familiarity with PR did not affect these results. **Conclusions:** These findings suggest that MHPs view positive reframing of PR as more beneficial and less harmful than present negative framing approaches. This sets the stage for subsequent phases that will assess the perceptions and preferences of individuals at risk and their families. The discussion highlights possible misconceptions of positive framing, such as labeling, positive psychology, and de-medicalization.

**Key words:** psychosis risk/stigma/false-positive predictions/positive framing

## Introduction

The field of psychosis risk (PR) identification and intervention has made significant advancements over the past 3 decades. However, these advancements have been accompanied by clinical and ethical concerns regarding the harmful effects of labeling young people as at PR.<sup>1–9</sup> This labeling can lead to negative psychological (stigma, demoralization), social (discrimination), and medical (unnecessary exposure to antipsychotics) consequences. On the other hand, avoiding any mention of PR can also be problematic, as it may seem paternalistic and disregard patient and families' autonomy and preferences, particularly if safer treatments become available.<sup>7,9</sup> Because adolescence and young adulthood are a critical period for identity development, and because most individuals identified as PR do not progress to develop a psychotic disorder,<sup>10</sup> these risks are particularly concerning.

Studies assessing the above concerns over the past decade present a nuanced picture. Earlier studies indicated that youths at PR often face internalized and public stigma, leading to emotional distress, discrimination, and reduced treatment engagement.<sup>11</sup> Moreover, they showed that stigma-related distress in PR individuals is associated with higher rates of transition to psychosis and increased suicidality.<sup>12,13</sup> However, other studies indicate that this stigma is more closely linked to patients' symptom experiences rather than to the clinicians' diagnosis,<sup>11</sup> that symptoms can lead to stigma even in the absence of a

diagnosis,<sup>14</sup> that knowledge about psychosis can mitigate stigma,<sup>15,16</sup> and that some individuals report relief after receiving a PR diagnosis.<sup>17</sup>

The findings from these latter studies, which suggest that earlier concerns about stigma and misdiagnosis are becoming less dominant, have led to a shift in perspective on PR. This change is prompting reconsideration of PR-related diagnoses in psychiatric classifications<sup>18</sup> and introduction of preliminary guidelines for a best-practice approach to communicating and psycho-educating patients and families about their PR status.<sup>19–21</sup>

Nevertheless, the debate on the effectiveness of current PR framing continues. A recent pioneering study assessing for the first time the impact of receiving feedback about being at PR using a pre-post design has shown that receiving PR feedback can still adversely affect self-perception.<sup>22</sup> Another recent study has found that terminologies like “UHR” and “APS” used in early intervention and diagnostic manuals are viewed unfavorably by carers and patients. Alternatives like “pre-diagnosis stage” or “at-risk mental state” are considered less stigmatizing.<sup>23</sup>

Building on earlier ideas,<sup>24</sup> we advocate for shifting from negative to positive framing of the at-risk state to strengthen the beneficial effects and mitigate the harmful impacts of PR identification and communication. The concepts of positive vs negative framing, as used here, are rooted in Tversky and Kahneman’s<sup>25</sup> seminal work on the framing effect. According to this work, individuals are more likely to make risk-avoidant choices (eg, choosing an identical treatment for a deadly disease) when the options are framed as promoting a positive outcome (eg, saving life) rather than as preventing a negative outcome (eg, preventing death).

Positive framing of risk in psychosis appears to hold promise for enhancing the balance between potential benefits and harms of early detection and intervention for several reasons. Firstly, research on framing effects reveals that adolescents and young adults, the target age group in this context, are more risk-averse when potential outcomes are presented as gains rather than losses.<sup>26</sup> Second, stigma-related literature indicates that, when viewed as relevant and credible, novel framing methods can be effective in reducing mental health stigma.<sup>27</sup> Third, positive framing can lessen the unnecessary use of antipsychotic medications, or if required, can present them in less stressful and stigmatizing terms, such as “internal noise reducers” or “thought focusers akin to internal chemical glasses.” Fourth, positive framing can reverse the meaning and emotional valence of what are currently viewed as false-positive predictions. In this light, cases that do not progress to full-blown psychosis under a positively framed at-risk mental state are seen as true- rather than false-positive predictions. In other words, they are accurate and valuable forecasts of risks to residual healthy capabilities.

Indirect real-world support for the potential benefits of positive framing in at-risk states comes from various

areas of general medicine, where high-risk conditions are often framed and communicated positively. For instance, critical medical conditions are referred to as “life-threatening,” rather than “high risk for death conditions” or “attenuated death syndrome.” High-risk pregnancies are termed just that, avoiding more negative phrasings such as “miscarriage risk syndrome.” Hearing problems are described as “hearing loss,” potentially alleviated with “hearing aids,” steering clear of terms like “attenuated deafness” treatable with “anti-deafness devices.”

To ensure a clear understanding of our study’s methods and results, it is essential to clarify from the outset both what positive framing entails and what it does not. Specifically, it is crucial to note that positive framing should not be confused with concepts such as re-labeling, positive psychology, or the de-medicalization of “normal human experiences.” While these are related ideas, they represent distinct approaches. A comprehensive discussion addressing these potential misconceptions is included in the Discussion section for further clarification.

To the best of our knowledge, aside from 2 pilot studies by our group,<sup>28</sup> the benefits of positive framing of PR have been largely unexplored. In our initial study, we assigned 125 adults to read vignettes about a young adolescent with mild or severe high-risk symptoms (scores 1–3 vs 3–5 on the structured interview for psychosis-risk syndromes (SIPS)), labeled as “psychosis high-risk” or “endangered reality testing” in an article that they found on the internet. Participants rated the adolescent’s self-stigma, help-seeking likelihood, and hope levels. In a second study, 254 mental health professionals (MHPs) evaluated the same scenarios, described as either “attenuated psychosis” or “reality-testing loss.” Results from the first study showed that the “endangered reality-testing” label was associated with more positive self-image, hope, and help-seeking likelihood compared to the “psychosis risk” label. The second study found similar trends, with the “reality-testing loss” label resulting in higher ratings across these domains compared to “attenuated psychosis.” No symptom severity effects were noted in either study. These preliminary studies suggest that positive reframing of the diagnostic label of the at-risk mental state reduces stigma and increases hope and help-seeking independent of symptom severity.<sup>28</sup> However, these studies had limitations, such as focusing only on the diagnostic label of the at-risk state and using non-personalized information from a low-credibility source (ie, an internet article). Another limitation of these studies is their reliance on written vignettes, which have been found to yield lower ecological validity due to eliciting less emotional engagement with the vignette compared to other formats, like video vignettes.<sup>29</sup>

The current study aimed to address the above limitations by evaluating the perceptions of MHPs regarding the induced impact of personally tailored feedback about risk status using positive framing. We focused on dimensions such as communication clarity, anxiety, stigma,

help-seeking, and optimism. The study also examined how familiarity with PR concepts influences these perceptions.

We initially focused on MHPs' perceptions in our phased research approach because they are the ones who will ultimately decide whether to adopt the novel method, provided it demonstrates advantages over current state-of-the-art practices. This preliminary assessment is crucial to justify further development and clinical testing of our approach and to establish its feasibility. It is important to clarify that our choice to initially focus on MHPs' perceptions is not intended to prioritize these views over those of young people and their families. Instead, this step is designed to set the stage for subsequent phases that will assess the perceptions and preferences of individuals at risk and their families.

For the first objective, we hypothesized that MHPs would perceive positively framed feedback as less stigmatizing and anxiety provoking, while encouraging help-seeking and optimism. Regarding the second objective, we had 2 opposing hypotheses. The first, grounded in cognitive dissonance theory,<sup>30</sup> suggested that MHPs knowledgeable in PR concepts might exhibit greater skepticism toward positive framing. This skepticism could stem from a potential conflict between positive framing and their established beliefs. Conversely, the second hypothesis posited that their deeper understanding of issues with current framing approaches would lead to a stronger preference for positive framing.

## Method

### *Study Design*

This study implemented an experimental vignette design to test the proposed hypotheses, utilizing a video simulation of a feedback session between a clinician, an adolescent, and their mother after a SIPS, performed by professional actors. Specifically, the investigation compared the impact of feedback provided with a negative vs positive framing on MPHs' perceptions of its potential benefits (such as mobilization toward help-seeking and the instillation of hope) vs its potential adverse effects (such as the provocation of anxiety and self-stigma) on the adolescent and mother. The choice of an experimental vignette design was driven by several factors: its ability to distinguish cause and effect, its proven high ecological validity (meaning the effects observed closely mirror real-world effects),<sup>31</sup> and its particular effectiveness in exploring how symptoms and labeling influence self- and social-stigma in PR scenarios.<sup>14,32</sup> The preference of an audiovisual over textual vignettes was guided by studies suggesting that it has higher ecological validity.<sup>29</sup>

The study was reviewed and approved by the IRB Committee of the School of Psychological Sciences of the University of Haifa, and conducted via a secure online platform, Qualtrics, from March to October 2023.

### *Participants*

Participants in the current study were 148 MHPs. The professionals were recruited through advertisements posted on professional forums, mailing lists, and websites of professional mental health organizations. The advertisements invited MHPs to participate in a study that explores professional opinions on the best practices for sharing mental health risk assessment findings with young people and their families in a manner that promotes hope and pursuit of help on the one hand while minimizing fear and stigma on the other. Additionally, the advertisement mentioned that participation in the study involves watching a short video, which presents a simulated feedback session acted out by professional actors of a psychologist with an adolescent and their mother, after which they would be asked to answer a few short questions related to the video. Furthermore, the advertisement emphasized that participation is completely voluntary and anonymous and that participants could receive a symbolic token of appreciation—a voucher for coffee and a pastry—for their involvement. Finally, a link to the study website was provided for additional detailed information to assist potential participants in making an informed decision about their involvement in the study.

Two hundred and eighteen MPHs accepted the invitation to visit the study site. On the first landing screen, they were asked to read the consent form. Of the 218 professionals who visited the site, 217 consented to participate and proceeded to begin the study. Of the 217 who consented to participate in the study, only 196 began the study. Of these 196, 152 completed the first section which consisted of questions concerning their sociodemographic and professional background and were randomly assigned to watch 1 of the 2 videos. Of these 152, 149 completed the questions inquiring about their perception of the feedback. One of them was excluded from the study because more than 2 weeks passed between watching the video and answering the questions.

All 148 participants who concluded the study fulfilled the prespecified inclusion and exclusion criteria, qualifying for the final study sample. The criteria for inclusion encompassed: possessing at least internship-level specialized training in mental health, being over the age of 18, and proficiency in Hebrew adequate for reading subtitles and responding to questions. Additionally, participants were required to have hearing and vision capabilities that enabled them to watch a video, with or without the use of assistive devices. Hence, the final sample in the study included 148 MPHs. Table 1 (left column) presents the demographic, professional, and psychosis-related background characteristics of the entire study sample.

### *Procedures*

Upon agreeing to participate in the study, the participants were asked to provide information about their

**Table 1.** Demographic, professional, and psychosis-related background characteristics of the total sample and the study groups

Variable	Framing type						<i>t</i>	<i>P</i>	<i>d</i>
	Total		Negative (Psy- chosis risk)		Positive (High- risk common sense)				
	( <i>N</i> = 148)		( <i>n</i> = 76)		( <i>n</i> = 72)				
(A) Continuous	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Age	42.50	9.22	42.86	9.04	42.13	9.45	0.48	.632	0.08
(B) Categorical	<i>N</i>	%	<i>n</i>	%	<i>n</i>	%	$\chi^2$	<i>P</i>	
Gender							0.34	.563	
Male	28	18.9%	13	17.1%	15	20.8%			
Female	120	81.1%	63	82.9%	57	79.2%			
Family status							0.07	.794	
Married/in a relationship	120	81.1%	61	80.3%	59	81.9%			
Single/separated/widowed	28	18.9%	15	19.7%	13	18.1%			
Parental status							4.57	.207	
At least 1 child is adolescent (12–18)	46	31.3%	28	36.8%	18	25.4%			
All children are past adolescence (>18)	15	10.2%	6	7.9%	9	12.7%			
All children are pre adolescence (<12)	53	36.1%	29	38.2%	24	33.8%			
No children	33	22.4%	13	17.1%	20	28.2%			
Religion <sup>a</sup>								1.00	
Jewish	142	95.9%	73	96.1%	69	95.8%			
Other	6	4.1%	3	3.9%	3	4.2%			
Mental health profession <sup>b</sup>							1.65	.924	
Social worker	15	10.1%	9	11.8%	6	8.3%			
Psychiatrist	20	13.5%	9	11.8%	11	15.3%			
Psychologist	91	61.5%	46	60.5%	45	62.5%			
Art therapist	8	5.4%	5	6.6%	3	4.2%			
Psychiatric nurse	5	3.4%	3	3.9%	2	2.8%			
Other	9	6.1%	4	5.3%	5	6.9%			
Professional development							0.70	.402	
Expert	63	69.2%	30	65.2%	33	73.3%			
Other	28	30.8%	16	34.8%	12	26.7%			
Contact with people with psychosis							1.94	.586	
Not at all	16	10.8%	8	10.5%	8	11.1%			
Seldom	71	48.0%	39	51.3%	32	44.4%			
Often	49	33.1%	25	32.9%	24	33.3%			
Most of my patients suffer from symptoms or a psychotic disorder	12	8.1%	4	5.3%	8	11.1%			
Subjective familiarity with CHR-p							0.87	.352	
No	96	64.9%	52	68.4%	44	61.1%			
Yes	52	35.1%	24	31.6%	28	38.9%			
People with risk for psychosis							—	—	
No	0	0.0%	0	0.0%	0	0.0%			
Yes	8	100.0%	5	100.0%	3	100.0%			
Relative with mental difficulties							0.14	.704	
No	111	75.0%	56	73.7%	55	76.4%			
Yes	37	25.0%	20	26.3%	17	23.6%			
Friends with mental difficulties							0.01	.918	
No	96	64.9%	49	64.5%	47	65.3%			
Yes	52	35.1%	27	35.5%	25	34.7%			
I have mental difficulties							0.15	.695	
No	135	31.2%	70	92.1%	65	90.3%			
Yes	13	8.8%	6	7.9%	7	9.7%			

Note: CHR-p = Clinical High Risk for psychosis.

<sup>a</sup>Fisher's exact test is displayed

<sup>b</sup>Fisher-Freeman-Halton exact test is displayed.

sociodemographic and professional backgrounds. In addition, they were asked to provide information about their level of professional and/or personal acquaintance

with psychosis and risk for psychosis. Subsequently, they were randomized to view 1 of the 2 videotaped simulated feedback sessions. To distribute the viewing



of each session uniformly among participants, the “Evenly Present Elements” feature of the Qualtrics Randomizer was utilized. Before being shown the simulated feedback session, participants were provided with a context for the session. Specifically, they read a brief text saying that the video depicts a psychologist’s feedback session with an adolescent and his mother, where she discusses the results of the adolescent’s assessment. This session is an enactment by professional actors, portraying a referral situation due to worrying behavioral changes in the teenager. In addition, they were told that after watching, they would be asked to answer some questions about the potential impact of the feedback on the adolescent and his mother, including their self-perception, challenges, and likelihood of seeking further help. Finally, they were asked to watch the entire video, as the questions related to key elements that were presented throughout the session.

Participants were given complete control over their viewing experience, including the frequency and pace at which they watched the video, as well as the timing of their progression to the next study phase by clicking the “Forward” button. Once the participants had finished watching the video, they were asked to respond to a questionnaire that evaluated their views on how the feedback session affected the adolescent and his mother. Upon concluding the study, the participants were invited to receive a coffee and pastry voucher by sending an email to the address displayed on the concluding screen. This method was utilized to maintain response anonymity.

### *Measures and Materials*

*Sociodemographic, Professional, and Psychosis-Related Experiences.* The initial segment of the study gathered data on the sociodemographic and professional characteristics of the participants, encompassing age, gender, family status, religion, mental health profession, and stage of career development. Furthermore, it probed into the respondents’ specific professional and personal familiarity with psychosis and Clinical High Risk for psychosis (CHR-p). This entailed inquiries about the frequency of interactions with people diagnosed with psychosis, knowledge of the CHR-p concept, exposure to CHR-p classified patients, personal connections to individuals (family members or friends) with psychosis, and any personal experiences with the condition. Additionally, the section sought information on whether the participants had adolescent children, which could influence their empathy toward the adolescent and mother depicted in the simulation video.

*Videotaped Simulated Feedback Sessions.* The core component of the study involved participants being

randomized to watch 1 of 2 versions of a video-recorded simulated feedback session. The scripts for these sessions were expressly crafted for this study by its 4 authors, all of whom are both researchers and clinicians with extensive expertise in psychosis and its risk factors. The initial draft was composed by the first (Y.S.N.) and last (D.K.) authors, with the second (S.M.) and third (D.R.) authors providing critical reviews and suggestions for enhancements. The sessions were structured to align with the ComPsych model’s guidelines for SIPS feedback meetings,<sup>33</sup> which represent the contemporary benchmark in the field.<sup>19</sup> According to this model, an effective feedback meeting should include: (1) setting the agenda, (2) reviewing the SIPS interview’s primary objectives and raw findings, (3) discussing initial diagnostic impressions, (4) empathetically addressing any emotions or queries arising from the diagnosis, sensitively conveying prognosis and potential outcomes to foster hope, (5) offering empathetic responses to the emotions of the patient and mother, (6) exploring treatment options, and (7) concluding the session.

The script for the first video, which featured a negative framing of feedback (ie, high-risk for psychosis), was adapted almost directly from a training video intended for clinicians, originally developed, and kindly shared with us by Dr Yulia Landa and her colleagues from the Icahn School of Medicine at Mt. Sinai in New York. Conversely, the script for the second video, which portrayed feedback with positive framing, was derived from the same source material. However, it underwent a reframing process that replaced each instance of negative framing (ie, “high risk for psychosis”) with positive framing (“intact abilities and common sense at high risk”). [Table 2](#) provides a comparative summary of the 2 scripts, highlighting their similarities and differences following the feedback steps outlined earlier. The complete scripts and the corresponding videos are available in [supplementary table 1](#).

The final versions of the scripts were vetted for authenticity by a group of 3 practicing clinicians with expertise in the detection and treatment of PR. They were further refined for narrative coherence by a professional video editor. The scripts came to life through rehearsals and performances by professional actors, with the recordings taking place under expert direction in a professional studio setting. To maximize emotional engagement with the vignette, the camera shots alternated focus between the psychologist, the adolescent, and his mother, and all 3 together.<sup>29</sup> A simple and neutral background was incorporated post-production, allowing for potential future alterations to explore research questions such as the impact of different settings (eg, youth-oriented vs medical). Rigorous quality control measures were implemented during filming to guarantee adherence to the script and to ensure that the actors realistically portrayed their characters, capturing both the spoken dialogue and

**Table 2.** A summary of the main similarities and differences between the negatively and positively framed feedback sessions

Step	Negative framing	Positive framing
Setting the agenda	This segment was identical in both videos. It introduced the main purpose of the meeting (ie, providing feedback from the evaluation) and invited other agenda items.	
Reviewing the SIPS major components.	This negative version of this segment provided a reminder of the 3 major areas covered by the SIPS: (1) symptoms and distress, (2) functioning, and (3) genetic risk as estimated by family history.	This positive version of this segment provided an almost identical reminder with 1 minor addition to the first area covered by the SIPS: (1) symptoms and distress, <b>but also healthy strengths</b> , (2) functioning, and (3) genetic risk as estimated by family history.
Going over the raw information gathered by the SIPS.	The negative version of this segment offered a reminder of the information that was shared by the adolescent and his mother in each section of the SIPS: (1) lately your mood hasn't been great, you had trouble sleeping and eating and had experiences of suspiciousness and mistrust toward others, specifically neighbors, (2) last year was more challenging, having a hard time focusing, more easily distracted, hanging out with friends is a bit harder, not helping at home as much, and (3) mom's uncle had similar problems but unclear what he suffered from.	The positive version of this segment offered an almost identical reminder with the following minor addition: (1) Lately your mood hasn't been great, you had trouble sleeping and eating and had experiences of suspiciousness and mistrust toward others, specifically neighbors, <b>But you mentioned you are being aware that most people believe that it's all in your head and you think this might be true</b> , (2) No difference (3) No difference
Sharing impressions regarding the main likely diagnosis and explaining the reasons behind this impression.	The negative version of this segment, which is the core of the feedback session, proposed that based on the abovementioned information, along with the timeline and level of severity, the diagnostic impression is that the adolescent falls into the category of being at increased risk of psychosis. Then, it explained that this impression is based on the presence of "low-level" psychotic symptoms, such as distressing suspiciousness. These symptoms do not cross the threshold for a psychotic disorder but can get worse under stress.	This positive version of this segment, which is the core of the feedback session, proposed that based on the abovementioned information, along with the timeline and level of severity, <b>the diagnostic impression is mixed but overall positive and optimistic. Most importantly, the findings suggest that the adolescent does not have a psychotic disorder.</b> Then it explained that this impression is based on the presence of <b>the healthy signs of common sense and openness to doubt that are better than what is usually seen in psychotic disorders. But it warned that these healthy abilities can wear out under stress.</b>
Responding emphatically to emotions and questions and sharing existing knowledge about likely prognosis.	The negative version of this segment shared that recent studies show that most people in this category do not go on to develop psychosis. Only about 1 in 5 people end up developing psychosis. This means that 4 out of 5 continue to experience symptoms at the same level or end up feeling better once the symptoms go away.	The positive version of this segment shared the same information with a positively framed meaning. Specifically, it shared that recent studies show that most people in this category do not go on to develop psychosis. Only about 1 in 5 people end up developing psychosis. <b>This means that 4 out of 5 will continue to maintain their healthy abilities and improve them to the extent of feeling better and having the symptoms go away.</b>
Explaining and discussing treatment recommendations.	The negative version of this segment suggested that because <b>"low level" psychotic symptoms are at high risk of getting worse under stress, the goal of treatment is to monitor and prevent them from developing into full-blown psychosis.</b>	The positive version of this segment suggested that because <b>intact healthy abilities and common sense are at high risk of wearing out under stress the goal of treatment is to monitor and protect them from wearing out under stress.</b>
Closing the session	This segment was identical in both videos. It made sure that there were no further questions and scheduled a follow-up session.	

the subtleties of nonverbal communication. The final versions of the videos were once again vetted for authenticity by 3 clinicians with extensive experience in CHR-p. The same actors were cast in the roles of the clinician, adolescent, and mother for both versions of the feedback session. The negatively framed video had a final duration of 6 min and 45 s, compared to the positively framed video, which was 8 min and 5 s long. The videos are available upon request from the last author of the paper (D.K.).

**Perceived Effect of the Feedback Session.** Upon watching the video-recorded feedback session, participants were asked to indicate their opinion regarding how the adolescent and his mother experienced the feedback meeting

across 6 dimensions. This evaluation utilized a specially designed questionnaire for this study. Respondents rated their agreement with 6 statements on a Likert scale ranging from "1" (strongly disagree) to "5" (strongly agree). These statements corresponded to the following dimensions: (1) the feedback was experienced as clear and understandable, (2) the feedback was experienced as empathetic, (3) the feedback was experienced as provoking worry and fear, (4) the feedback was experienced as self-stigmatizing, (5) the feedback was experienced as motivating to seek help, and (6) the feedback was experienced as generating optimism about the treatment outcome. The 6-item scale demonstrated acceptable to high internal consistency, after reversing the values of items 3 (anxiety-provoking)

**Table 3.** Means, standard deviations, and correlations between the 6 variables assessing the perceived effect of the feedback session.

Variable		<i>M</i>	<i>SD</i>	1	2	3	4	5
1.	Clear and understandable	3.92	0.85	—				
2.	Sensitive and empathic	4.22	0.75	0.27***	—			
3.	Anxiety-provoking	2.68	0.97	−0.27***	−0.33***	—		
4.	Stigmatizing	1.91	0.76	−0.31***	−0.23**	.55***	—	
5.	Mobilizing to seek help	4.18	0.74	0.34***	0.44***	−0.40***	−0.44***	—
6.	Instilling hope	3.97	0.82	0.46***	0.34***	−0.40***	−0.42***	0.67***

Note: *N* = 148.

\*\**P* < .01. \*\*\**P* < .001.

and 4 (stigmatizing). Specifically, the internal consistency was at the higher end of the acceptable spectrum under both the negative (Cronbach's Alpha = 0.75) and positive framing (Cronbach's Alpha = 0.78) conditions. This level of reliability was consistent across both framing conditions (Cronbach's Alpha = 0.79). It is important to note that the reversal of scores for items 3 and 4 was applied solely for these analyses. All other analyses utilized the original item values.

### Statistical Analysis

First, data were inspected for missing data. EM algorithm<sup>34</sup> was used to handle the missing data, which was only 1 data point. Then, differences in demographic, professional, and psychosis-related background variables by framing type were analyzed. Independent samples *t*-tests were conducted for continuous variables. For categorical variables, the  $\chi^2$  test for independence, Fisher's exact test, or Fisher-Freeman-Halton exact test were used. In addition, associations between the study variables under each 1 of the 2 framing conditions were examined via Pearson's correlations. Next, Hypothesis 1, regarding differences in study variables by type of framing, was examined via a 1-way multivariate analysis of variance (MANOVA) followed by univariate post hoc analyses. Lastly, Hypothesis 2, regarding a moderating effect of familiarity with CHR-p, was tested using a 2-way MANOVA, in which subjective familiarity with CHR-p (low or no vs high) was added as a moderator of the main effect of type of framing. The data were analyzed using IBM SPSS Statistics version 29 with an alpha set at 0.05 2-tailed for all statistical tests.

## Results

### Sociodemographic, Professional, and Psychosis-Related Background

Table 1 presents the demographic, professional, and psychosis-related background characteristics of the total sample and stratified by framing type. The analyses of between-group differences in these characteristics yielded nonsignificant results for all tests, indicating that the

randomization process successfully created well-matched groups.

### Associations Between the 6 Perceived Effectiveness Variables

Table 3 presents means, standard deviations, and bi-variate correlations between the 6 study variables by type of framing. As can be seen, consistent with the high internal consistency values (see Method section above) all correlations were in the medium to high range and statistically significant.

### Hypothesis Testing

Hypothesis 1: Perceived effect of framing type

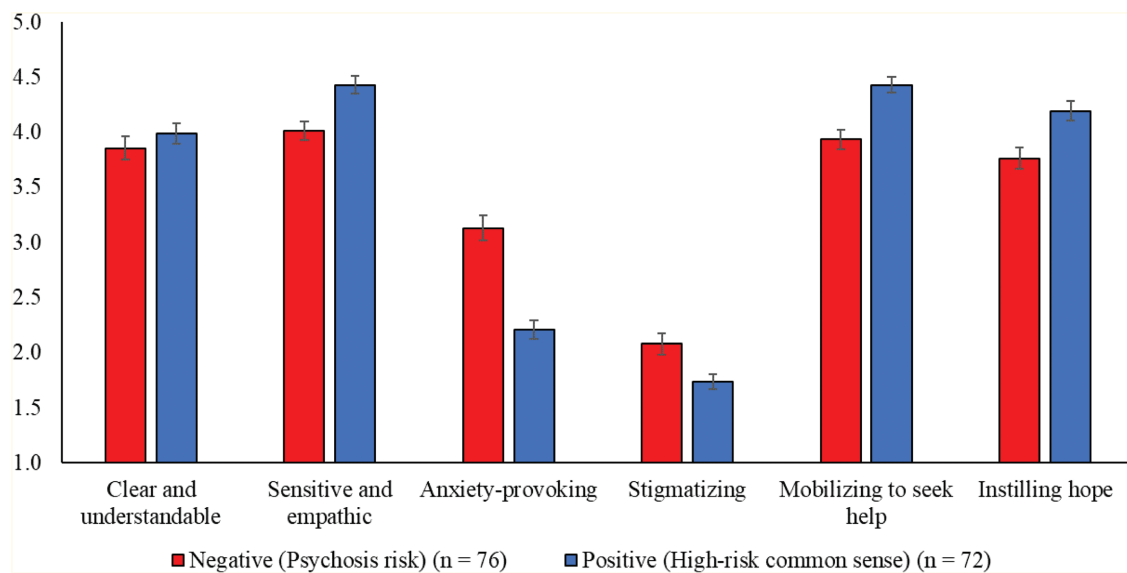
Table 4 and figure 1 present comparisons in the 6 variables assessing the perceived effect of the feedback session by type of framing. As hypothesized, a 1-way MANOVA yielded a significant effect of framing type [Pillai's trace = 0.28,  $F(6, 141) = 8.99$ ,  $P < .001$ ,  $\eta^2 = 0.28$ ]. Pillai's trace statistic was selected because the assumption of homogeneity of variance-covariance matrices was not met [Box's  $M = 56.81$ ,  $F(21, 77911.14) = 2.59$ ,  $P < .001$ ], and this statistic is considered more robust to violations of this assumption.<sup>35</sup> Post hoc tests indicated that the positive-framing group scored higher on sensitivity and empathy, mobilizing to seek help, and instilling hope than the negative-framing group. Additionally, the positive-framing group scored lower scores on anxiety-provoking and stigmatizing than the negative-framing group. Although it was in the hypothesized direction, the difference in clear and understandable scores was not significant. Therefore, Hypothesis 1 was mostly supported.

Hypothesis 2: Level of familiarity with CHR-p as a moderator of the framing effect.

Supplementary table S2 and supplementary figure S1 present comparisons in the six variables assessing the perceived effect of the feedback session by type of framing and level of familiarity with the concept of CHR-p. A two-way MANOVA for the six variables assessing the perceived effect of the feedback session replicated the

**Table 4.** Means, standard deviations, and results of 1-way MANOVA for the 6 variables assessing the perceived effect of the feedback session by framing type

Variable	Negative (Psychosis risk)		Positive (High-risk common sense)		<i>F</i>	<i>P</i>	$\eta^2$
	<i>(n = 76)</i>		<i>(n = 72)</i>				
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>			
Clear and understandable	3.86	0.90	3.99	0.78	0.89	.348	0.01
Sensitive and empathic	4.01	0.76	4.43	0.69	12.31	<.001	0.08
Anxiety-provoking	3.13	0.97	2.21	0.71	43.18	<.001	0.23
Stigmatizing	2.08	0.88	1.74	0.58	7.78	.006	0.05
Mobilizing to seek help	3.93	0.79	4.43	0.60	18.39	<.001	0.11
Instilling hope	3.76	0.85	4.19	0.72	11.03	<.001	0.07

**Fig. 1.** Means and standard errors of the perceived effect of the feedback session by framing type.

significant result for the main effect of type of framing [Pillai's trace = .268,  $F(6, 139) = 8.49$ ,  $p < .001$ ,  $\eta^2 = .27$ ]. However, the analysis did not support Hypothesis 2. Specifically, neither the main effect of subjective familiarity with CHR-p [Pillai's trace = .017,  $F(6, 139) = 0.40$ ,  $p = .881$ ,  $\eta^2 = .02$ ], nor the framing type  $\times$  subjective familiarity with CHR-p interaction effect [Pillai's trace = .054,  $F(6, 139) = 1.31$ ,  $p = .116$ ,  $\eta^2_p = .05$ ] were significant.

## Discussion

### Key Findings

In line with the study's primary hypothesis, the MHPs assigned to the positively framed feedback session perceived the impact on the adolescent and his mother as significantly less harmful (regarding induced anxiety/stress and stigma) and more beneficial (in terms of help-seeking and hopefulness) compared to their counterparts

who viewed the negatively framed session. The greatest effect was in the dimension of induced anxiety.

To the best of our knowledge, there are no other studies that explored the effect of positive vs negative framing, as defined by Tversky and Kahneman,<sup>25</sup> on stigma in mental health. However, our findings are consistent with a recent study that investigated a similar concept of positive framing and its effect on stigma.<sup>36</sup> This study, employing a randomized video exposure method akin to ours, revealed that media portrayals of individuals recovering from methamphetamine use disorder with a focus on recovery narratives can reduce social stigma. In contrast, depictions emphasizing harm narratives were found to heighten the desire for social distance and the perception of dangerousness.

Contrary to our main hypothesis, the findings for the secondary goal were inconclusive. In line with the first hypothesis, MHPs with self-reported CHR-p familiarity showed marginally less support for positive framing



compared to less experienced peers. Yet, this difference was not statistically significant. Interestingly, regarding the promotion of hopefulness, the trend favored the second hypothesis, with MHPs knowledgeable in CHR-p displaying a stronger preference for positive framing. However, this variation also lacked statistical significance.

The absence of any notable difference in preferences for positive or negative framing among MHPs, regardless of their experience with CHR-p, could simply suggest that such experience does not influence framing preferences. Alternatively, this lack of difference might result from the cancelation of 2 counteracting forces within the experienced MHPs group: a preference for the established approach vs a better awareness of its limitations. This second possibility aligns with Polari et al,<sup>23</sup> who reported a general dissatisfaction among youth mental health clinicians with terms like “ultra-high risk” and “attenuated psychosis syndrome.” Another possibility for the uniformity in perceptions across professionals, irrespective of CHR-p familiarity, might be attributed to the field’s relative infancy in Israel. Given the importance of this discovery, further research with MHPs from countries with more established CHR-p practices is crucial.

### *Clinical and Ethical Implications*

Drawing on psychological theories that emphasize the impact of a communicator’s belief in their message,<sup>37,38</sup> this study focused on the perceptions of MHPs. Initial findings suggest that MHPs have greater confidence in positively framed feedback about at-risk mental states compared to negative framing. Moreover, contrary to our expectations, this confidence seems unaffected by their familiarity with current PR concepts. Because MHPs are those who will ultimately have to decide whether to adopt the novel approach if it demonstrates advantages over present state-of-the-art approaches, these findings suggest that further development and clinical testing of the novel approach with individuals at risk and their families is both justifiable and feasible.

While the present findings do not directly assess the attitudes of at-risk adolescents and their families, they imply that it is justifiable and feasible. In addition, the clinicians’ preference for positive framing might indirectly signal its effectiveness. This implication stems from the idea that clinicians’ belief in the benefits of positive framing can influence patients’ expectations and receptiveness, whether consciously or subconsciously. Therefore, our study’s focus on clinicians’ perceptions extends beyond merely supporting the feasibility of clinical trials; it also suggests potential implications for their outcomes. However, it is crucial to emphasize once again that focusing on clinicians’ perceptions in our study should not be misinterpreted as suggesting that these perceptions should take precedence over the views of patients and their families. Rather, this focus is an essential

preliminary step, which sets the groundwork for the feasibility of inclusively studying the perceptions and preferences of young individuals at high risk and their families in a manner that places their autonomy and views in the forefront.

In this regard, it might be worthwhile to note that none of the participants in the study raised concerns about the novel approach obscuring or distorting information about psychosis or PR. This suggests that, at least in the eyes of the professionals who participated in the study, framing of the at-risk state is not seen as necessarily less respectful for patients’ autonomy and agency than present state-of-the-art approaches to communication of risk are. However, this conclusion needs to be further tested and validated with patients and their families.

If the present results are replicated and further validated in future studies with teens and their families, they would suggest that positive framing strategies used in general medicine for significant risks (eg, “life-threatening condition”), or subclinical pathological conditions (eg, “minimal life signs,” “hearing loss,” and “short-sightedness”) could be effectively applied in PR too to reduce risks associated with early psychosis detection, such as stress, stigma, unnecessary medication use, and false-positive predictions. Moreover, they would suggest that positive framing could also enhance early identification benefits, encouraging high-risk individuals to seek help, and fostering hope.

While no studies have yet tested clinicians’ real-world willingness to use positive framing, existing evidence suggests a favorable environment for its adoption. Firstly, the substantial emphasis on patients’ and family members’ strengths and skills in the emerging literature on psychoeducation guidelines for those at risk of psychosis is promising.<sup>19–21</sup> Although these guidelines typically frame strengths and skills within a context centered on PR rather than focusing on the risk to these strengths themselves, the mere acknowledgment of their importance is a positive sign. Additionally, recent conceptual paper by Thakkar et al,<sup>39</sup> which advocates a shift from a risk-focused to a resilience-based approach in early psychosis is another indirect indicator. This shift which emphasizes identifying factors that could prevent serious mental illness and foster positive outcomes, provides further support for the potential receptiveness of the field to positive framing.

### *Potential Misconceptions Regarding Positive Framing*

**Framing vs Labeling.** Changing the diagnostic label and language for the at-risk mental state is a crucial aspect of positive reframing. However, these concepts differ. Labeling refers to the specific terminology for mental health conditions, while framing represents a broader mindset or perspective that transcends names and

language. This distinction is vital, as research shows that while some term choices may reduce stigma by implying less personal responsibility (eg, “substance use disorder” vs “substance abuse”),<sup>40</sup> simply changing terms typically has limited stigma-reducing effects.<sup>41</sup> This distinction is also crucial because, unlike re-labeling, positive reframing does not prohibit references to psychosis or PR, which can be perceived as paternalist by patients and families.<sup>7</sup> In fact, our positively framed feedback session demonstrates that positive framing of the at-risk state does not ignore references to psychosis and PR. Instead, the shift of focus to existing capabilities that are at high risk occurs only after concerns about psychosis have been acknowledged and addressed. Finally, the idea that positive framing involves more than just replacing terms can be illustrated by considering how it changes the interpretation of cases that do not progress to full-blown psychosis. Instead of being viewed as false-positive predictions, they are seen as correct predictions.

*Positive Framing vs Positive Psychology.* Positive framing and positive psychology, while sharing some similarities, are fundamentally different. Positive psychology is a well-established branch of psychology focused on what makes life most worth living, like meaning, joy, and self-realization.<sup>42</sup> In this field, the term “positive” refers to exceptionally beneficial experiences or conditions. On the other hand, positive framing is about how we present the possible outcomes of a condition, highlighting benefits (such as preserving health) rather than avoiding losses (like sickness). Thus, while a high-risk status does not inherently align with positive psychology’s concept of “positive,” the goal of identifying and addressing it can be framed positively.

*Positive Framing vs De-medicalization.* In close relationship to the previous point, it is important to note that positive framing does not equate to de-medicalizing normal human experiences, where behaviors or conditions once considered “sick” are redefined as natural. Our use of positive framing is not about removing the at-risk mental state from medical contexts or formal diagnoses, like those in the DSM. Rather, drawing from research on positive framing in life-threatening diseases, we propose similar medical analogies for the at-risk mental state. These would emphasize risk to remaining healthy abilities, transcending a singular illness category.

### *Strengths and Limitations*

The current study has several notable strengths. Foremost among these is the experimental design of the study. As far as we are aware, it is the first study to compare the perceived effects of various feedback types about being at risk using a randomized controlled design. An experimental design enables the isolation of the perceived

impacts of different types of framing with a degree of control and precision unattainable in observational or correlational studies. Another important strength of the present study is the use of videotaped simulated feedback sessions. The simulated videotape method allows greater ecological validity than is usually achievable in other experimental methods, such as vignettes or brief transcripts.

Along with the above strengths, this study also has its limitations and areas needing further investigation. The primary limitation of this study is its exclusive focus on the perceptions of professionals, rather than on those of the intended recipients of the feedback—young people at risk and their families. These studies should first mirror the current study’s simulation approach and then extend into real-world settings to explore how positive framing impacts young people at risk and their families.

A second limitation of the study is the lack of questions that directly ask MHPs about their comfort levels and perceptions of potential barriers in implementing these feedback approaches. We believe that the data collected on their perceptions of the feedback’s impact on patients and families can provide indirect insights into their comfort and willingness to use these approaches in practice. This belief is grounded in the understanding that MHPs’ beliefs about an intervention’s impact are often a primary driver in their decision-making process. However, future studies that directly assess these questions are clearly in place.

A third significant limitation of our study is that it focused on the impact of positive framing on an adolescent learning about his PR status for the first time. Consequently, whether the positive effects we observed also extend to adolescents and young adults who already identify themselves as at risk, or have been previously informed of their risk status, remains uncertain. This issue is particularly pertinent considering the findings from Woodberry et al.’s study.<sup>22</sup> They indicated that self-identification as being at PR is associated with reduced emotional negativity independent of formal feedback of PR. Therefore, additional research, specifically designed to address this aspect, is crucial for a comprehensive understanding of these dynamics.

A fourth limitation of our study lies in the initial selection and use of terms within our positive framing approach, particularly “high-risk common sense.” While our positively framed feedback was seen by the participating clinicians as comparably clear to traditional negative framing, there may be more effective options yet to be explored (eg, “high-risk reality testing”). Further research that uses extensive consultation with experts and patients, like that used by Polari et al.’s<sup>23</sup> work on new terms for the at-risk mental states, could enhance the relevance and clarity of the terminology.

A fifth limitation of the study is the absence of an evaluation regarding how each feedback framing might have influenced the perceived severity of the at-risk state.

Consequently, the study does not enable 1 to determine to what extent the differences observed in the study might be attributed to differences in perceived risk severity associated with each framing. While identifying the optimal level of perceived risk severity remains an unresolved question that, in our opinion, warrants a dedicated inquiry, future studies that incorporate an assessment of this factor are no doubt important to provide more comprehensive insights.

A sixth limitation of our study is its limited focus in the feedback sessions, primarily centered on the individual's symptoms and psychological skills. This approach overlooks a broader spectrum of factors influencing PR, including sociodemographic background, psychosocial context, cultural norms, and personal values. Future research should explore how positive framing can be effectively combined with a more personalized and context-sensitive approach.

Other relatively more minor, but nonetheless important, limitations of the present study are the slight difference in the time length of the 2 feedback sessions, and the lack manipulation check. These limitations will need to be addressed in future studies.

#### *Future Directions*

If future research replicates and validates the present findings, overcoming the abovementioned limitations, it will establish a solid conceptual and methodological basis for valuable new research directions. Most notably, they will lay the groundwork for randomized controlled trials to test the effectiveness of positively reframing PR in real-world settings. Furthermore, they will lay the foundation for a systematic exploration of how positively framed information about the diagnosis and prognosis of the at-risk mental state is experienced and perceived by patients, families, and MHPs. Insights gathered in this systematic investigation will inform the development and validation of training programs for MHPs' that will guide them how to best employ positive framing of risk in a genuine, shared decision-making dialogue in clinical practice.

Finally, this groundwork will enable the expansion of positive framing research to other mental health conditions with high-risk factors. A few representative examples include "high-risk resiliency" in individuals at clinical high risk for Post-Traumatic Stress Disorder (PTSD), or "high-risk mood regulation" for those at clinical high risk for Bipolar Depression Disorder.

#### *Conclusion*

In their recent review, "Breaking the Web: Life beyond the at-risk mental state for psychosis," Perez and Jones<sup>43</sup> argue for breaking free of the endless pursuit of perfecting predictive accuracy for the at-risk mental state. Instead, they

recommend a whole new way of looking at the issue, which strives to stay away from regarding these mental states as pointers toward diagnoses that will probably not occur. While our findings are undoubtedly preliminary, we believe they underscore rethinking what is truly at risk in the at-risk mental state—specifically, is it emerging psychosis or presently existing but declining healthy functions—as a particularly promising initial step in the direction of Perez and Jones' recommended shift of vision.

#### **Supplementary Material**

Supplementary material is available at <https://academic.oup.com/schizophreniabulletin/>.

#### **Acknowledgements**

The authors wish to thank Dr Yulia Landa and Mr Rachel Jespersen, from the Icahn School of Medicine at Mt. Sinai, New York, for their kind sharing with us the training video of a simulated SIPS feedback meeting, which served as a model for the simulated feedback sessions in the study. The authors wish to thank Dr Merav Adres for her invaluable review and comments regarding the transcripts of the 2 simulated feedback sessions. The authors wish to thank Prof. Paul S. Applebaum, the Elizabeth K. Dollard Professor of Psychiatry, Medicine and Law, and Director of the Center for Law, Ethics, and Psychiatry at Columbia University, for his generous and helpful consultation regarding the overall research plan of our project. The authors wish to thank Mr Eran Druckman for his invaluable assistance with the statistical analyses. The authors have declared that there are no conflicts of interest in relation to the subject of this study.

#### **Funding**

This work was supported by NARSAD Independent Investigator Grant from the Brain and Behavior Research Foundation to D.K. (Grant ID: 18523).

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