Published in final edited form as:

J Child Fam Stud. 2019 March ; 28(3): 765–775. doi:10.1007/s10826-018-01305-4.

Qualitative Assessment of Emotion Regulation Strategies for Prevention of Health Risk Behaviors in Early Adolescents

Amy Hughes Lansing,

Bradley/Hasbro Children's Research Center, & Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, Providence, RI, USA

Kate M. Guthrie,

Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University & The Miriam Hospital, Providence, RI, USA

Wendy Hadley,

Bradley/Hasbro Children's Research Center, & Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, Providence, RI, USA

Angela Stewart,

Bradley Hospital, Providence, RI, USA

April Peters,

Bradley/Hasbro Children's Research Center, Providence, RI, USA

Christopher D. Houck

Bradley/Hasbro Children's Research Center, & Department of Psychiatry and Human Behavior, Alpert Medical School of Brown University, Providence, RI, USA

Abstract

The ability to regulate emotions has been linked to a variety of adolescent health risk behaviors, including sexual risk behaviors, especially for adolescents who are experiencing mental health symptoms. However, there is limited information available on intuitive emotion regulation strategies for early adolescents with mental health symptoms to facilitate the adaptation of emotion regulation interventions for psychopathology to health risk behavior prevention. For example, interventions to prevent sexual risk behaviors in early adolescence have yet to specifically target emotion regulation. This paper describes the use of focus groups to identify emotion regulation strategies that were understood by and acceptable to early adolescents with mental health symptoms who are also more likely to engage in risky health behaviors. Qualitative data were collected through focus groups (k=5 groups) with 15 early adolescents with mental health symptoms. The most commonly generated emotion regulation strategies were leaving the situation, distraction, physical release, expressing oneself to someone, positive thinking, and

Please address correspondence to: C. D. Houck, Bradley/Hasbro Children's Research Center, Coro West Building, Suite 204, One Hoppin Street, Providence, RI 02903, Telephone: 401-93-8539. Fax: 401-444-4645. chouck@lifespan.org.

Author Notes: A.H. Lansing is now at the University of Nevada, Reno.

Conflict of Interest: The authors declare that they have no conflict of interest.

considering other options. Translation of these findings for use in preventive health-risk behavior interventions (including for sexual risk) is discussed.

Keywords

emotion regulation; prevention; qualitative; sexual risk; health behaviors

Early adolescents experiencing mental health symptoms are a particularly important group for which we need to better understand emotion regulation skills, i.e., the ability to modulate both positive and negative emotions in the service of goal directed action (Gross, 2014). Problems with emotion regulation are a key mechanism that might place early adolescents with mental health symptoms at greater risk for poor outcomes across adolescence and emerging adulthood (Bell & McBride, 2010). For example, adolescents with mental health symptoms are more likely to engage in sexual risk behaviors (DiClemente et al., 2001; Lucenko et al., 2003;). Problems with emotion regulation have been identified as a mechanism contributing to greater engagement in risky sexual behaviors (Brown et al., 2013). Early adolescents with mental health symptoms might benefit greatly from developmentally appropriate preventive interventions targeting emotion regulation. However, among early adolescents with mental health symptoms, research has yet to identify what emotion regulation strategies young people find to be intuitive, comfortable, and acceptable. This lack of information regarding early adolescents' experiences with emotion regulation strategies has impeded the development of developmentally appropriate emotion regulation preventive interventions.

Motivated by this need in the context of sexual risk behavior prevention, this research team conducted a two-part research program: (1) conducting focus groups with early adolescents with mental health symptoms to elicit their experiences managing emotions in a variety of challenging contexts and to capture the range of emotion regulation strategies that they find acceptable and feasible; and (2) testing a novel sexual risk behavior prevention program grounded in the work of the focus groups on emotion regulation. This study describes the outcomes of the first part of the research program, a qualitative examination of emotion regulation strategies in early adolescents with mental health symptoms as well as a discussion of how those findings were translated into a developmentally appropriate framework for integrating emotion regulation into a prevention program for sexual risk behaviors. Results from the second part of the research program, the intervention testing, are already available elsewhere and discussed herein. However, there remains substantial benefits that might be drawn from the qualitative information gathered on emotion regulation strategies in early adolescents with mental health symptoms for future emotion regulation programs. First, we will describe the sexual risk behavior and emotion regulation context that motivated this research and then we will introduce the qualitative research program.

Sexual Risk Behaviors in Adolescence

Adolescents with mental health symptoms are more likely to engage in sexual risk behaviors earlier in, and across, adolescence (Brooks, Harris, Thrall & Woods, 2002; Brown, Houck,

Hadley & Lescano, 2005; DiClemente et al., 2001; Lucenko et al., 2003; Noll, Haralson, Butler & Shenk, 2011). Youth Risk Behavior Surveillance data indicate that before age 13, 4% of adolescents report having had sexual intercourse, but by tenth grade, 36% of adolescents report having done so (Kann et al., 2016). In contrast to rates in the general population, 42% of adolescents with emotional disorders have had sex before the age of 13 (Valois, Bryant, Rivard & Hinkle, 1997), and among adolescents in outpatient mental health treatment, 54% had been sexually active, 29% did not use a condom during last sexual activity, and 14% had tested positive for a sexually transmitted infection (Brown et al., 2011). These data highlight the importance of intervening to reduce and prevent risky sexual behaviors earlier in adolescence, especially for adolescents with elevated mental health symptoms.

Emotion Regulation and Sexual Risk Behaviors

Across adolescence, problems with emotion regulation are associated with increased engagement in risky health behaviors, including sexual risk behaviors (Hessler & Katz, 2010; Raffaelli & Crockett, 2003; Brown et al., 2013). Adolescents taking risks rarely pause to engage in a thoughtful decision making process (Steinberg, 2010). Instead, emotions occurring in the moment are thought to drive adolescent risk taking behavior (Bell & McBride, 2010; Dahl, 2001; Steinberg, 2010; Wills et al., 2006). With regards to risky sexual behaviors, adolescent sexual activity is often preceded by increasing positive affect (Shrier, Koren, Aneja & de Moor, 2010; Shrier et al., 2012). Further, momentary increases in negative affect have been associated with greater likelihood that adolescents who are depressed would have sex with a non-main partner (Blood & Shrier, 2013). Adolescents' abilities to modulate both positive and negative emotions in the moment, rather than coping or longer term mood regulation (Gross, 2014), are likely critical to adolescent decision-making in the context of emotionally arousing features of risk situations. For example, it may be more challenging for adolescents to make safe sexual decisions when feeling anxious about maintaining a relationship, embarrassed for being sexually inexperienced, or curious about sexual activity. Adolescents who can momentarily down regulate these positive and negative emotions may be more likely to engage in a decision-making process that is influenced by healthier knowledge, attitudes and behaviors.

Unfortunately, the few prior interventions that targeted emotion regulation in sexual risk situations (Brown et al., 2011, Brown et al., 2013) were developed for older adolescents who were already experiencing severe psychopathology. These intervention models for older adolescents with psychopathology often emphasize developmentally advanced cognitive restructuring and distress tolerance skills which are theorized to be challenging for early adolescents to implement (Steinberg, 2010). At the same time, there is limited data about the emotion regulation skills that early adolescents with mental health symptoms identify as applicable to and acceptable for in-the-moment regulation of positive and negative emotions in challenging emotion regulation situations (e.g., avoiding a fight, passing an important test at school, or avoiding overwhelm at a funeral). Qualitative examination of early adolescents with mental health symptoms' experiences managing emotions in a variety of challenging contexts could help to capture the range of emotion regulation strategies that they find acceptable and feasible. This data can inform developmentally appropriate interventions

targeting emotion regulation to prevent risky sexual behaviors. In addition, such information about what strategies are comfortable for and understood by early adolescents with mental health symptoms in the service of in-the-moment regulation can be applied to emotion regulation interventions for other target behaviors (e.g., substance use, school performance, social relationships).

The Current Study

The goal of this study was to identify emotion regulation strategies that were understood by and acceptable to early adolescents with mental health symptoms in situations that elicited challenging emotions. This study conducted focus groups with early adolescents with mental health symptoms. The focus group approach allowed early adolescents to both describe preferred emotion regulation strategies and comment on their experiences with common strategies found in existing emotion regulation interventions for adolescents. Data from these focus groups were then analyzed via thematic and conceptual analyses. The results present the common emotion regulation strategies and rationales identified. The discussion explores those strategies in the context of emotion regulation theory and extends the findings to considering how these strategies might be applied in a developmentally appropriate emotion regulation intervention (both in the context of sexual risk behavior prevention and other intervention targets).

METHODS

Participants

Early adolescents with mental health symptoms were recruited from three urban middle schools in New England. Five gender-stratified groups consisting of three participants each were enrolled. Nine boys and six girls participated; 11 participants were 13 years old, and 4 participants were 14 years old. The racial distribution was 5 White, 5 African-American, 1 Native American, 2 Multiracial, and 2 No Response. Latino ethnicity was endorsed by 5.

Procedures

All study procedures were approved by the applicable Institutional Review Board (IRB). Participants were referred to the study by school counselors, who identified students with suspected mental health problems using a referral form listing common teen mental health symptoms. To be included, school counselors identified at least two symptoms of a disorder of mood (e.g. depression, withdrawal, nervousness, mood swings) or conduct (e.g., hyperactivity, defiance, frequent suspensions) and one symptom of impairment (e.g., declining grades, frequent absenteeism, declining involvement in activities). Counselors then contacted parents to explain the study and request permission to allow study staff to contact them regarding participation and informed consent. Counselors were not informed which students ultimately participated in the focus groups. Prior to enrolling in the study, written informed consent was obtained from all parents and assent was obtained from each participant.

Focus Group Moderator Guide

Focus group guides were developed to provide a consistent framework from which moderators facilitated focus groups. This included an “intent statement” for each section, which outlined in detail what data were being sought and included definitions so all moderators collected the same types of information. The guides used vignettes and open-ended questions, followed by additional probes if needed. Vignettes have been successfully used in qualitative research with adults to study risky behaviors (Hughes, 1998) and health behavior decision making (Gourlay et al., 2014). The intent was to capture the target population’s use of emotion regulation strategies in a variety of challenging situations to elicit the range of and comfort with these strategies. The current study was motivated by a need for a developmentally appropriate emotion regulation intervention to prevent risky sexual behaviors in early adolescents with mental health symptoms. However, the aim of this study was to identify emotion regulation strategies that early adolescents felt would be applicable across a variety of contexts and situations that might elicit challenging emotions in early adolescence. With this aim, and the knowledge that the majority of early adolescents with mental health symptoms have not yet had sex, only one vignette referred to a sexual situation. Other emotion-arousing vignettes (described below) were used to increase the range of emotions to be regulated and possible strategies generated. In this way, an understanding of the most intuitive emotion regulation strategies across several types of situations and emotions that youth might experience could be determined.

The focus group guides had two primary sections. The first aimed to have youth independently generate emotion regulation strategies, while the second provided them with strategies sometimes taught in emotion regulation interventions for older populations and asked for their feedback to examine comprehension of those strategies. This ensured youths’ thoughts regarding a range of emotion regulation strategies were queried.

Development—Before developing the focus group guides, exploratory interviews were conducted with adolescents in the target age range to explore the thought processes of the study population related to emotion regulation and to facilitate the design and framing of the focus group queries. Prior to conducting these interviews, investigators reviewed literature on emotion regulation intervention to develop initial concepts and interview questions. This centered on identifying possible emotion regulation strategies to be queried via open-ended vignettes. The vignettes were written to be situations that with which early adolescents may be familiar. Each vignette identified a situation, emotions evoked by the situation, and a specific emotion regulation goal so that youths would be prompted to discuss how they would regulate the identified emotions to achieve that goal in context rather than discuss broader mood regulation. From the scenarios/vignettes piloted in the interviews, two were used in the focus groups (being teased and test anxiety). Another two vignettes were developed based on the interviews. In particular, pressure to have sex was added as a vignette as this context was consistent with the motivation behind the current study, and a vignette about attending a funeral of a loved one was added to create context for the second section of the focus groups where youths’ comprehension of common emotion regulation strategies was explored.

The exploratory interviews also informed the decision to conduct small focus groups, with three individuals in each group, as (1) our interpretation was that youth might be more comfortable in a group rather than a one-on-one conversation with an adult about affective and sexual risk topics, (2) youth seemed to feel more comfortable and able to engage without disruption when numbers were smaller, and (3) smaller groups allowed more time to encourage depth in explanations and provide more nuanced understanding with respect to emotion regulation.

Focus Group Part 1: Generating Strategies.—Focus groups began with the discussion of three emotion-arousing situations, using a matched-gender person as the main character (see Table 1). For example, “John is alone in a bedroom with his girlfriend at a party. They are making out and his girlfriend says she wants to have sex for the first time. John is curious about it, but isn’t sure he wants to do it right now. But his girlfriend is pressuring him and he knows that everybody at the party is going to ask what they did in the bedroom. He is horny, but confused and pressured too.” The other two situations included managing anxiety while taking a test and avoiding a fight when being teased in front of peers. These situations were scripted to provide early adolescents with an emotion regulation goal and require them to respond with immediate emotion regulation strategies (vs. long term coping strategies), as is the case with situations involving risky sexual behaviors. Each vignette presentation was followed by the prompt, “What should John (Kate) do to keep his (her) feelings from taking over?” to elicit strategies for managing the identified feelings. Each participant-generated strategy was followed with the query, “How could that help feelings from taking over?” to assess adolescents’ perceptions of how that strategy would influence emotion.

Focus Group Part 2: Comprehending Strategies.—After participants were given the opportunity to generate emotion regulation strategies for each situation, a fourth situation involving a teen feeling overwhelmed at a grandparent’s funeral was presented (with a clear goal of managing strong emotions at the funeral, not mood across time after the death). This situation was followed by the description of a series of seven emotion regulation strategies drawn from the literature and other interventions for improving emotion regulation (Brown et al., 2011; Linehan, 1993): distraction, leaving a situation, expressing oneself to someone, physical release, affect tolerance, positive thinking, and normalizing. Each strategy was briefly defined, then participants were asked, “How could that help feelings from taking over?” For example, with regards to affect tolerance participants were asked, “How about ‘waiting it out,’ where a person just feels the feeling and waits for it to get weaker so that they can make a decision? How could that help feelings from taking over?”.

Prior to study initiation, all focus group moderators were trained on leading focus groups and the agenda content. Then during the study, moderators met regularly to debrief, share facilitation strategies, and consider whether participant data was generating redundancy in themes.

Data Collection and Management.—Single-gender focus groups were conducted to increase the probability that these young adolescents would speak openly about the sensitive topics of emotion regulation including sexual decision-making. Each focus group was

conducted by two same-gender facilitators and audio recorded. Recordings were then transcribed verbatim and cleaned (e.g., personal identifiers were removed and transcription errors corrected). Focus groups lasted approximately 90 minutes. Debriefing summaries were completed after each group and used to assess the repetition of themes and ensure saturation was reached (i.e., as data collection progressed no new conceptualizations of primary study constructs were obtained) despite the small sample size.

Analyses

A formal coding scheme was developed iteratively. Initial codes were derived from *a priori* research questions and elements of the agenda. A single transcript was then reviewed by the entire coding team and initial codes were used to identify thematic elements being sought using a deductive approach grounded in emotion regulation intervention literature. As transcripts were reviewed, an inductive approach was also used, whereby codes were added representing emergent themes and refined to accommodate the data. Consistent with project goals, transcripts were coded to indicate whether groups independently generated each strategy and whether they demonstrated understanding of how implementing that strategy might function to manage one's affect. Using this data coding strategy, each subsequent transcript was coded by at least two independent coders. Discrepancies between coders were discussed with the full, four-person team. Once consensus was reached (i.e., master coding), these final, master coded documents were entered into an NVivo database. With this approach, reliability of coding between raters was not assessed quantitatively as agreement was required for the master coding. Transcripts were analyzed for thematic content using the principles of thematic and content analysis (Miles & Huberman, 1994; Strauss, 1987; Weber, 1990).

RESULTS

Participants independently generated five of the seven *a priori* identified emotion regulation strategies of interest: leaving the situation, distraction, physical release, expressing oneself to someone, and positive thinking. Some groups generated an unanticipated emotion regulation strategy, "considering other options," which was added to the coding scheme. Furthermore, all groups provided comments on their understanding of the seven strategies presented by the investigators.

Leaving the Situation

All five groups independently generated the idea that leaving the situation, by getting away from triggers causing strong feelings, is a useful strategy for managing emotions. Teens suggested leaving the situation by going outside, to their room, or to the bathroom. For example, teens said, "Walk away from whatever is bothering you," and, "Just leave."

Four of the five groups provided a logical rationale for how leaving a situation would help to manage strong emotions. Some teens recognized that removing themselves from the situation might keep them safe by decreasing exposure to emotional cues. Teens suggested that leaving a situation prevented them from being overwhelmed by triggers for emotions, such as when one boy said, "...gonna see people crying and then you're gonna start feeling

sad and you're not if you just go outside..." Finally, some teens believed that leaving a situation would help to suppress all thoughts and emotions related to the situation. One teen suggested, "Could've just walked away and pretend like it never happened" and another stated, "They'd forget about it for a while."

Distraction

All five groups identified distraction, in which a person thinks about or does something in response to an emotionally provoking situation to take his mind off of his feeling(s) by refocusing his attention on something else, as a useful emotion regulation strategy. Teens suggested a variety of distraction strategies, such as "count backwards," "watch TV," and "go play basketball." One girl suggested leaving the situation by removing herself and distracting herself, stating, "Like if she walked away and started having a conversation with her friend."

All five focus groups understood that by focusing on something else the strong feelings associated with the trigger (e.g., bullying peer) would either decrease in intensity or be replaced by a different feeling. Teens stated that distraction would be useful to help you "forget about it [the triggering situation]... It won't get him so mad." One teen suggested watching TV as a strategy and stated that it would work by replacing the feeling, "it would probably make her happy if she's watching a funny movie or something like that."

Physical Release

Four of the five groups independently generated the idea that physical actions, such as deep breathing or exercising, could help manage strong emotions. Teens suggested taking deep breaths, washing your face with cold water, and punching a pillow, a punching bag, or a wall. This was a commonly named strategy for managing anger for both boys and girls.

Three of the five groups expressed that physical actions can release emotions and physically calm the body to regulate emotions. For example, one teen said that physical actions help get "your anger out by, like, using force." A male described a cathartic process: "Like it's in front of you, like clench your fist, think that his face is right there, the person who shoved you, you're angry at him, you punch him, there's a hole in the wall, so there's a hole in his face. The rage is gone." A female also described a cathartic feeling from punching a pillow, suggesting that it feels better to let strong feelings out, but at a safe distance:

Participant: "...just imagine that you are screaming at that person, but you're just screaming at a plain pillow."

Moderator: "Okay, and how does that help the feeling?"

Participant: "Cuz you're letting it all out."

Finally, taking deep breaths was described as a physical action that could be useful, because, as one girl stated, "You are calming your feeling, calming your nerves down, it's relaxing your body" and because, as another boy stated, "...when you're mad, like you start breathing heavy and stuff like that. You start and your adrenaline pumps and stuff like that, so you just calm down ... and you'll stop and it will help you breathe slower, stuff like that."

Expressing Oneself

All of the five teen groups generated and comprehended the idea of expressing feelings verbally as a way of managing feelings. Talking with someone other than the person causing the strong feeling (e.g., friend, teacher) was the most commonly endorsed method of expressing oneself, and teens often described it as useful because it allowed strong feelings to escape from the body. One boy stated "...after you talk about it, you'll just, after having it out of your system, you won't have to worry about it." A girl noted the benefits of expressing herself as preventing an emotional explosion, "...her feelings wouldn't stay in and it wouldn't, like, become worse and worse until it all came out one day and it would have come out negative instead of positive." In suggesting talking to a teacher in response to a vignette about being bullied, another girl noted "she'll express her feelings to the teacher and she can let, like, all the stress out that she have against that bully instead of getting into a fight, just by talking about it." Written expression of emotions was not spontaneously generated by any of the focus groups. While this strategy was not generated, prompts during the focus group to discuss this strategy revealed that written expression of emotions was still acceptable to early adolescents.

Other teens identified expressing feelings as useful for managing feelings through other mechanisms. One young man, in explaining singing as a way to express feelings, emphasized the distraction aspects of the activity over the expression aspects, "You'd probably be more focused on that [singing] than other feelings they had." When facilitators asked about artistic expression as a way of managing feelings, participants in two groups noted that by drawing or expressing oneself verbally they improved their self-image, which in turn helped them manage their emotions, "...you really grab the pencil and just like you make a really cool picture and you feel better about yourself. You're like 'Look what I just did.' It makes you feel better."

Teens spontaneously noted that talking about feelings elicited social support. At times this social support was described as an emotion management strategy, as when one girl commented, "It makes her feel good that he understands her." At other times, however, it was clear that the talking was not about affect regulation, but about problem solving, such as "It's not just you now, you've got an adult to take care of it."

Positive Thinking

Positive thinking was defined as focusing on something positive or thinking about someone who cares about you. All five groups spontaneously generated the idea that focusing on positive aspects of a situation is a helpful strategy for managing emotions. Notably, this strategy was generated primarily in response to two scenarios: taking a test and the death of a loved one.

When asked what a teen might do to manage feelings of being nervous before taking a test, teens suggested focusing on positive outcomes (e.g., "He should think about what you want, what your reward is, what you get when you do this"), avoiding negative thoughts (e.g., "He's gotta think positive, not negative"), and giving oneself encouragement (e.g., "Telling herself that she can do it" and "... remember that he, like, studied for a long time").

Positive thinking was also generated in response to the situation in which a teen felt sad after the death of a grandparent. Teens suggested thinking positively by focusing on good thoughts and memories. For example, one boy stated, “Think about all the happy times together,” while one girl said, “She could think about positive stuff her grandma did when she was a little girl or whatever and maybe she won’t feel all that sad.”

When asked how thinking positively would help manage strong emotions, four of the five groups demonstrated comprehension, suggesting that positive thinking would generate positive feelings, such as confidence, happiness, pride, and courage, which would decrease the strong negative emotion. Positive thinking was also believed to promote laughter (e.g., “reverses sad to happy,”) and decrease negative feelings (e.g., “It can make the feeling go away... like if you think you are nervous about something just think positive and your nerves will go away. You probably won’t think about that no more”).

Normalizing

Normalizing was defined as reminding oneself that others have been in this situation or experienced these feelings before in an effort to help decrease the intensity of the emotions and to increase the sense of manageability or control of the emotion. None of the groups independently generated using this strategy. However, when presented with this option, all five groups understood how normalizing would help to manage strong feelings. In general, these examples centered on knowing that peers had gone through similar situations, such as “After you think about that [that your friend has gone through a similar situation] and you think about ‘Yeah, I can do it, I can do it!’ you get actually happy. You’re happy because you can do anything your friend can do.” Another teen reported that it was useful to recognize that they were not targeted “...if you always thought, ‘Wow everything always happens to me,’ you always get mad about it because you think that’s the only person it happens to, you think that it happens to other people too so it just makes you feel better”.

Affect Tolerance

Tolerating affect was described as “waiting it out” in which a person allows themselves to feel a particular feeling and wait for it to get weaker until they can decide how to act. None of the groups independently generated this strategy nor could any of the groups identify how this alone would help one manage strong feelings (“I don’t think it would work”). Two groups indicated that adolescents would feel compelled to act in some way in order to manage feelings, that passive acceptance did not seem feasible (“I would do something about it”). One group suggested that teens were developmentally unable to wait out feelings, stating “I don’t think we’re patient enough.” Another thought this could make feelings stronger, possibly leading to trouble later. Instead they favored a strategy of expression.

Participant 1: I don’t think that helps.

Moderator: That wouldn’t work?

Participant 2: It would make it worse.

Moderator: It would make it worse? How come?

Participant 1: Because over time emotions build up.

Considering Options

Considering options was characterized as a cognitive emotion regulation strategy in which an individual considers other ways to think about the triggering situation that brought on strong feelings. While not presented to the focus groups as part of the protocol, several groups identified reflecting on alternative approaches or outcomes as a strategy. For example, considering the possibility of getting a new pet when a pet dies would be an example of considering options. Of the five focus groups, three groups independently generated this cognitive strategy as a way to manage strong feelings. In response to the test situation, a participant stated that the student could “think of one question at a time instead of all of them.” In contrast, others suggested focusing on possible consequences such as “if he fights he’ll get kicked out of school” and “think about what would happen if I did something bad” as a way of reducing affect by focusing on feelings associated with those consequences.

Only one of the three groups that generated considering options was able to describe how it would regulate emotions. The adolescent stated that thinking about one question at a time rather than the entire test would be useful because “they [test questions] won’t overwhelm her....It would calm her down and then it would, like, make her think easier.”

DISCUSSION

This study explored emotion regulation strategies that were understood by and acceptable to early adolescents with mental health symptoms in diverse situations that elicited challenging emotions. Results indicated that these early adolescents with mental health symptoms commonly and spontaneously generated several strategies that they perceived to be beneficial and feasible. Specifically, leaving the situation, distraction, self-expression, and positive thinking were suggested by all five of the focus groups as methods for preventing one’s feelings from “taking over.” Physical strategies aimed at altering or calming the physical sensations associated with strong feelings were also generated by most of the groups, as were cognitive strategies. Many of the suggested approaches involved simple concrete actions (e.g., walking away, punching a pillow) that early adolescents could execute when emotionally aroused, as opposed to a more passive approach such as affect tolerance (i.e., waiting for negative emotions to pass). The repeated nature of these themes and their general level of comprehension suggest that these strategies are somewhat intuitive for early adolescents with mental health symptoms and may form the foundation of emotion regulation in this developmental stage for this population.

Other techniques were not often generated by early adolescents with mental health symptoms. No groups proposed affect tolerance as a feasible method, suggesting this may not be a natural fit for early adolescents. Though successfully used in some treatments with older adolescents and adults (e.g., dialectical behavior therapy; Linehan, 1993), tolerating affect and waiting for it to pass was not understood as potentially helpful and viewed as possibly harmful by early adolescents. This is consistent with research suggesting that early adolescents may lack access to the effective use of developmentally advanced cognitive restructuring and distress tolerance skills (Steinberg, 2010). On the contrary, while no groups suggested normalizing their experience as a way of managing strong emotions, all of

the groups were able to identify how this might be helpful, suggesting that this may also be a developmentally feasible strategy for this age group.

The data from these focus groups represented the views of early adolescents with mental health symptoms on applicable and effective emotion regulation strategies. At the same time, the acknowledged motivation behind this current study was to translate these findings into developmentally appropriate emotion regulation strategies for integration in preventive interventions for sexual risk behaviors in early adolescents with mental health symptoms. Accordingly, it is also important and relevant to consider and discuss the data with regards to developmental appropriateness, consistency with the evidence base on emotion regulation, and parsimony—with the simplest approach to organizing (and recalling) the strategies described by early adolescents prioritized.

First, strategies may be best considered as developmentally appropriate if 1) they were self-generated by early adolescents with mental health symptoms as potential responses to situations presented and 2) early adolescents with mental health symptoms understood how using the strategy might help one manage feelings to avoid actions based primarily on emotions. Based on the data analyses from the focus groups, the strategies of Leaving the Situation, Distraction, Physical Release, Expressing Oneself, Positive Thinking, Normalizing, and Considering Options might be considered as developmentally appropriate, while Affect Tolerance would be excluded.

Second, some of these emotion regulation strategies identified by early adolescents with mental health symptoms also need to be reformed into a skill that is consistent with the evidence base on emotion regulation. It is important to capitalize on naturalistic urges that early adolescents with mental health symptoms have to use particular emotion regulation strategies and then recast those strategies in ways that promote healthy emotion regulation. For example, at-risk early adolescents commonly reported leaving the situation as a helpful emotion regulation strategy. This strategy could easily be construed as avoidance or suppression, and in fact, some adolescents in the focus group even expressed that emotional suppression would be a goal of leaving a situation. Yet, in the moment, leaving the situation could be helpful in facilitating healthy decision-making. Specifically, physically leaving the situation could be a helpful strategy if the adolescent could respectfully leave the arousing situation and then return to the situation after allowing their emotions to calm and initiating a thoughtful decision-making process. In addition, brief distraction was identified as a similar strategy that could achieve the same effect if an adolescent could not respectfully and/or physically leave a situation. In both cases, after calming their emotions and returning to the situation, physically or mentally, adolescents would then be better able to engage in a healthy decision-making process. This may be similar to long-term coping strategies, such as cognitive-behavioral reappraisal. However, emotion regulation places greater emphasis on the immediate goal of modifying one's appraisal of a situation to change the significance attributed to it and facilitate specific goal-directed action.

Third, to simplify the findings in a parsimonious way for use in developing a emotion regulation prevention for sexual risk behaviors, it was also beneficial to consider how these emotion regulation strategies might be grouped into broad categories based on conceptual

links identified from the focus group data. For example, participants sometimes reported leaving the situation and distracting oneself at the same time, and their explanations for how the strategies were helpful were similar. Therefore, we also considered clusters of emotion regulation strategies, with each cluster consisting of related strategies with similar mechanisms of action, and identified three possible groupings of emotion regulation strategies that were developmentally appropriate and consistent with the evidence based on emotion regulation. In an effort to use developmentally appropriate language consistent with that used by participants, we'll discuss those emotion regulation strategies as "Get Out," "Let It Out," and "Think It Out".

Early adolescents frequently endorsed strategies that distracted them from the emotional cues. Getting away from emotional triggers was a common thread between adolescent explanations of leaving the situation (physically getting away from emotional triggers) and distraction (cognitively getting away from these triggers). As such, these were combined into a broader category, "Get Out," in which adolescents were encouraged to momentarily get away from whatever is causing their intense feeling as a strategy for decreasing the intensity of that feeling in the moment and allowing healthier decision making. For example, when feeling pressured to drink by peers, separating oneself from the others by going to the bathroom for a moment can provide an opportunity to self-regulate away from the cues that are causing the strong feelings (e.g., peers, beer). Decreasing this affective arousal may increase the likelihood of decision-making based on knowledge or personal values and decrease decisions based on embarrassment or curiosity.

In addition, early adolescents often commented on the cathartic qualities and physical changes associated with having the feeling "out of your system" via self-expression and physical release strategies. These techniques were thus combined to form "Let It Out," in which teens are encouraged to do something to keep feelings from staying "bottled up," either something physical or something to express oneself. For example, if a teen felt hurt, confused, and angry because her boyfriend breaks up with her, calling a friend to talk about it, journaling, or exercising to release pent up emotions may decrease intense feelings that could lead to unhealthy responses, such as picking a fight with this boyfriend or self-cutting.

Finally, cognitive strategies, such as positive thinking (for negative emotions) and thinking about consequences (for positive emotions), were labeled "Think It Out," in which early adolescents are encouraged to look for other ways to think about emotional triggers. Broadening the strategy from "positive thinking" was viewed as important, since positive cognitions may not always be realistic or helpful in reducing risk behaviors. For example, if an early adolescent is feeling curious about having sex while making out with a partner, positive thinking may increase those feelings, leading to risky behaviors. Taking a moment to consider the consequences (e.g., having a baby or getting a disease) may decrease feelings of arousal or curiosity, facilitate more balanced decision-making, and reduce the likelihood of having risky sex.

Get Out, Let It Out, Think It Out describes and organizes the adolescent generated emotion regulation skills that early adolescents with mental health symptoms are developmentally likely to understand as well as learn to use in healthy ways.

Integration with Emotion Regulation Theory

It is noteworthy that these early adolescent-generated strategies for emotion regulation largely correspond with Gross' (2014) process model of emotion regulation, even though Gross' model was not used to guide the focus groups or the organization of the three emotion regulation categories. Specifically, Gross' model includes two processes that overlap with "Get Out" strategies, situation modification and attentional deployment, which are consistent with youth-identified strategies of leaving the situation and distraction. Gross' response modulation process overlaps with "Let It Out" strategies including physical release and expressing oneself. Last, Gross' cognitive change process overlaps with the "Think It Out" strategies including positive thinking, normalizing, and considering the options. The only emotion regulation process in Gross' model not identified during the focus groups was situation selection, which refers to planning that increases or decreases the likelihood of being in an emotionally arousing situation. This is not surprising given that this process was not as applicable to the focus group prompts emphasizing one's presence in an emotionally evocative situation. Further, from our view, it is not developmentally appropriate or feasible to expect early adolescents to completely abstain from contexts in which emotions related to sex or other behaviors that can harm a person may be triggered. Overall, the correspondence of the focus group findings with Gross' model provides further construct validity for the early adolescent-generated emotion regulation strategies.

Sexual Risk Behavior Prevention

A noted motivation for this study was to facilitate a developmentally appropriate emotion regulation-focused sexual risk behavior prevention program for early adolescents with mental health symptoms. The described "Get Out, Let It Out, Think It Out" organization has since been incorporated into a manualized prevention program for early adolescents with mental health symptoms (Project TRAC: Talking about Risk and Adolescent Choices). The TRAC program begins by raising awareness of emotions, as well as teaching identification and labeling of feelings. Teens then explore how emotions can affect behavior and how managing emotions can improve decision making "in the moment." Get Out, Let It Out, and Think It Out are taught and practiced with non-risk behavior and then applied to risk behavior situations (e.g., sexual risk scenarios). The program integrated sexual health information throughout twelve, one-hour, small-group, after-school sessions. When examined through a randomized controlled trial, this intervention was found to be efficacious compared to a time-and attention-matched health promotion control group in use of emotion regulation strategies and in reducing engagement in sexual and other risk behaviors, with effects persisting even 30 months after intervention completion (Blinded for Review; Blinded for Review; Blinded for Review). The success of this program is consistent with research linking emotion regulation with adolescent sexual risk (Brown et al., 2013; Hessler & Katx, 2010; Raffaelli & Crockett, 2003) and indicates that emotion regulation skills are a feasible target for minimizing risk behaviors that can affect health and that prevention is a successful model for targeting these behaviors.

Further, the success of these intervention studies provides support for the early adolescent generated emotion regulation strategies in the current qualitative study, and suggests that "Get Out, Let It Out, and Think It Out" might also be applicable to other health targets

beyond sexual risk behaviors. A benefit of the qualitative approach of the current study is that it did not focus only on sexual risk behaviors, increasing the generalizability of the findings to novel contexts in early adolescence. For example, research has identified emotion regulation as critical to self-regulating behaviors (e.g., school performance, substance use, eating) and chronic illness management in early adolescence (Garnefski, Koopman, Kraaij, & ten Cate, 2009; Lansing & Berg, 2014). In particular, the strategies identified in this study may be highly applicable to addressing early adolescent behaviors that need to be regulated from moment-to-moment and in the context of changes in emotion throughout the day, such as school performance, healthy eating, medication adherence, and type 1 diabetes or cystic fibrosis management.

Limitations

While the focus groups yielded a variety of perspectives on emotion regulation from early adolescents with mental health symptoms, data were from a relatively small sample of students in one geographic area and therefore may not generalize to other regions. Also, these perspectives may differ from those of youths without mental health symptoms. Similarly, because this study did not follow students as they got older, these data do not provide insights into the development of emotion regulation; rather, they are snapshots of the early adolescent developmental period. Also, these data reflect hypothetical situations. Participants did not personally experience these situations, nor were they emotionally aroused when generating responses. These discussions reflect what they know and might suggest to a peer but may not reflect what they actually do when they are emotionally dysregulated. Last, three of the four vignettes used in this study involved more negative affect than positive affect. Therefore, less information was gathered on how teens manage positive feelings, which are often associated with risk behaviors such as sexual risk taking and substance use.

Future Directions

Further research on emotion regulation and early adolescent risk behaviors to confirm these findings is necessary. This might include further testing of the strategies through surveys and focus groups with additional early adolescents. Such research should also involve momentary sampling methods for capturing momentary emotions and attempts at regulating those emotions, which would be preferable to only retrospective self-reports which may be biased by longer term mood regulation (Shrier et al., 2005). This research could help to identify the particular situations in which early adolescents with mental health symptoms are most likely to experience positive and negative emotions that disrupt healthy decision making and how in-the-moment emotion regulation attempts are linked with behaviors. Further studies could also be conducted to further assess the role of context in strategy selection. This work should also aim to explore the generalizability of the identified emotion regulation strategies to the broader early adolescent population.

Finally, given the paucity of research on early adolescent emotion regulation relative to research on longer-term mood regulation and coping skills, we feel that qualitative data were integral to understanding the developmental level and the acceptability of emotion regulation skills for early adolescents with mental health symptoms. Focus groups, even with a small

number of youth, can be an effective tool to use to explore new developmental levels or new populations. We encourage researchers and clinicians to consider, or continue, using qualitative methods more frequently in their theory and program development processes to capitalize on these valuable perspectives.

Acknowledgments:

The authors would like to thank Timothy Walker, M.S., for his assistance with the project.

Funding Sources: Research supported by the National Institutes of Health (R34 MH 078750 and R01 NR 011906 to Dr. Christopher Houck) and the Lifespan/Tufts/Brown Center for AIDS Research. [ClinicalTrials.gov](https://clinicaltrials.gov/ct2/show/study/NCT00741975) ID: [NCT00741975](https://clinicaltrials.gov/ct2/show/study/NCT00741975)

References

- Bell CC & McBride DF (2010). Affect regulation and prevention of risky behaviors. *Journal of the American Medical Association*, 304, 565–566. [PubMed: 20682937]
- Blood EA, & Shrier LA (2013). The Temporal Relationship Between Momentary Affective States and Condom Use in Depressed Adolescents. *Archives of sexual behavior*, 42(7), 1209–1216. [PubMed: 23297149]
- Brooks TL, Harris SK, Thrall JS, & Woods ER (2002). Association of adolescent risk behaviors with mental health symptoms in high school students. *Journal of Adolescent Health*, 31, 240–246.
- Brown LK, Hadley W Stewart A, Lescano C, Whiteley L, Donenberg G, et al. (2011). Psychiatric disorders and sexual risk among adolescents in mental health treatment. *Journal of Consulting and Clinical Psychology*, 78, 590–597.
- Brown LK, Houck C, Donenberg G, Emerson E, Donahue K, & Misbin J (2013). Affect management for HIV prevention with adolescents in therapeutic schools: The immediate impact of project balance. *AIDS and Behavior*, 17(8), 2773–2780. [PubMed: 23975475]
- Brown LK, Houck CD, Hadley WS, & Lescano CM (2005). Self-cutting and sexual risk among adolescents in intensive psychiatric treatment. *Psychiatric Services*, 56, 216–218. [PubMed: 15703353]
- Brown LK, Nugent NR, Houck CD, Lescano CM, Whiteley LB, Barker D, Viau L, & Zlotnick C (2011). Safe thinking and affect regulation (STAR): Human immunodeficiency virus prevention in alternative/therapeutic schools. *Journal of the American Academy of Child and Adolescent Psychiatry*, 50, 1065–1074. [PubMed: 21961780]
- Dahl RE (2001). Affect regulation, brain development, and behavioral/emotional health in adolescence. *CNS Spectrums*, 6, 60–72. [PubMed: 17008832]
- DiClemente RJ, Wingood GM, Crosby RA, Sionean C, Brown LK, Rothbaum B et al. (2001). A prospective study of psychological distress and sexual risk behavior among black adolescent females. *Pediatrics*, 108, E85 1–6. [PubMed: 11694669]
- Garnefski N, Koopman H, Kraaij V, & ten Cate R (2009). Brief report: Cognitive emotion regulation strategies and psychological adjustment in adolescents with a chronic disease. *Journal of adolescence*, 32(2), 449–454. [PubMed: 18775562]
- Gross JJ (2014). Emotion regulation: Conceptual and empirical foundations. In Gross JJ (Ed.), *Handbook of emotion regulation*, 2nd ed. (pp. 3–20). NY, NY: Guilford Press.nd
- Gourlay A, Mshana G, Birdthistle I, Bulugu G, Zaba B, & Urassa M (2014). Using vignettes in qualitative research to explore barriers and facilitating factors to the uptake of prevention of mother-to-child transmission services in rural Tanzania: a critical analysis. *BMC Medical Research Methodology*, 14(1), 21. [PubMed: 24512206]
- Hessler DM & Katz LF (2010). Brief report: Associations between emotional competence and adolescent risky behavior. *Journal of Adolescence*, 33, 241–246. [PubMed: 19481247]
- Hughes R (1998). Considering the vignette technique and its application to a study of drug injecting and HIV risk and safer behaviour. *Sociology of Health & Illness*, 20(3), 381–400.

- Kann L, McManus T, Harris WA, Shanklin SL, Flint KH, Hawkins J, ... Zaza S (2016). Youth Risk Behavior Surveillance-United States, 2015. *MMWR Surveillance Summaries*, 65(6).
- Lansing AH, & Berg CA (2014). Topical review: Adolescent self-regulation as a foundation for chronic illness self-management. *Journal of pediatric psychology*, 39(10), 1091–1096. [PubMed: 25214646]
- Linehan MM (1993). *Skills training manual for treating borderline personality disorder* New York, NY: Guilford Press.
- Lucenko B, Malow R, Sanchez-Martinez M, Jennings T, & Devieux JG (2003). Negative affect and HIV risk in alcohol and other drug (AOD) abusing adolescent offenders. *Journal of Child and Adolescent Substance Abuse*, 13, 1–17. [PubMed: 19112523]
- Mellins CA, Brackis-Cott E, Dolezal C, & Meyer-Bahlburg HFL (2005). Behavioral risk in early adolescents with HIV+ mothers. *Journal of Adolescent Health*, 36, 342–352. [PubMed: 15780790]
- Miles MB & Huberman AM (1994). *Qualitative Data Analysis* Newbury Park, CA: Sage.
- Noll JG, Haralson KJ, Butler EM, & Shenk CE (2011). Childhood maltreatment, psychological dysregulation, and risky sexual behaviors in female adolescents. *Journal of Pediatric Psychology*, 36, 743–752. [PubMed: 21335615]
- Raffaelli M & Crockett L (2003). Sexual risk taking in adolescence: The role of self-regulation and attraction to risk. *Developmental Psychology*, 39, 1036–46. [PubMed: 14584983]
- Shrier LA, Feldman HA, Black SK, Walls C, Kendall AD, Lops C, & Beardslee WR (2012). Momentary affective states surrounding sexual intercourse in depressed adolescents and young adults. *Archives of sexual behavior*, 41(5), 1161–1171. [PubMed: 21755382]
- Shrier LA, Koren S, Aneja P, & de Moor C (2010). Affect regulation, social context, and sexual intercourse in adolescents. *Archives of Sexual Behavior*, 39, 695–705. [PubMed: 18818996]
- Steinberg L (2010). A dual systems model of adolescent risk-taking. *Developmental Psychobiology*, 52(3), 216–224. [PubMed: 20213754]
- Strauss A (1987). *Qualitative analysis for social situations* Cambridge University Press: NY.
- Valois RF, Bryant ES, Rivard JC, & Hinkle KT (1997). Sexual risk-taking behaviors among adolescents with severe emotional disturbance. *Journal of Child and Family Studies*, 6, 409–419.
- Weber RP (1990). *Basic Content Analysis* Newbury Park, CA: Sage.
- Wills T, Walker C, Mendoza D, & Ainette M (2006). Behavioral and emotional self-control: Relations to substance use in samples of middle and high school students. *Psychology of Addictive Behaviors*, 20, 265–278. [PubMed: 16938064]
- Wyman PA, Cross W, Hendricks Brown C, Yu Q, Tu X, & Eberly S (2010). Intervention to strengthen emotional self-regulation in children with emerging mental health problems: Proximal impact on school behavior. *Journal of Abnormal Child Psychology*, 38, 707–720. [PubMed: 20180009]