

Use of puppets to teach resourcefulness skills to women who self-injure: An exploratory study[☆]



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ABSTRACT

Background: Self-injurious behavior (SIB), when frequent and repetitive, can lead to risk behaviors resulting in accidental or intentional suicide. Psychoeducation about resourcefulness can be critical to interrupt the cycle of self-injury. Therapeutic puppetry provides a safe and secure vehicle for expressing feelings without fear of retaliation.

Objectives: Determine the outcome of a resourcefulness psychoeducation program, utilizing hand puppets as a teaching tool, on the measure of resourcefulness for adult women who self-injure.

Methods: A psychoeducation program, utilizing hand puppets as a teaching tool, was offered to women during psychiatric hospitalization. Participants completed the Resourcefulness Scale (RS) pre and post intervention. A program evaluation to determine the effectiveness of hand puppets was completed. Acceptability and feasibility of the program was evaluated.

Results: Sixteen participants completed the program. Results showed a statistically insignificant increase in scores. The program evaluation revealed agreement that resourcefulness learning was accomplished. Participants reported that hand puppets were helpful in practicing resourcefulness skills. Majority of participants recommended continuation of the program.

Introduction

Yearly, 800,000 people die of suicide worldwide. The most significant risk factor is a previous suicide attempt. Repetitive self-injury, a frequent pre-cursor to suicide, is a hard-to-break habit with elevated risk behaviors. Self-injurious behavior (SIB), also referred to as self-harm behavior or self-directed violence, is defined as the intentional, deliberate act of damage to bodily tissue without suicidal intent or within culturally sanctioned acts such as tattoos or body piercings (Hicks & Hinck, 2007). The World Health Organization (WHO) Sustainable Development Goals, has a target to reduce the suicide mortality rate by 2030 (World Health Organization [WHO], 2018). Critical to interrupting the maladaptive coping cycle of SIB, is the introduction of an effective coping strategy to deal with the experience of emotional dysregulation. Developing interventions that are skill focused can provide alternatives to self-injury and prevent suicidal behaviors. One such intervention utilizes a psychoeducational framework to teach about the

use of learned resourcefulness as an alternative for women who have a history of self-injury requiring inpatient psychiatric hospitalization. As a teaching tool to facilitate the learning process, hand puppets provide a safe vehicle to discuss emotional stressors that lead to maladaptive, high-risk behaviors.

Background

Self-injurious behavior (SIB), the intentional, deliberate act of damage to bodily tissue, when frequent and repetitive, can become a hard-to-break habit with increasingly elevated risk behaviors resulting in accidental or intentional suicide (WHO, 2018). Approximately two million cases of SIB are reported each year in the US. Women comprise 60% of those who self-injure (Gluck, n.d.). In the US, the number of young adults who engage in self-injurious behavior is 12–20% and globally 13.4%. The US adolescent rate is 12–37% and globally 17.2%. Self-injury can begin as early as 15 years of age. One study reported that

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of 792,939 visits to the emergency room for intentional self-harm, 69% were in the 18–44 age range and 28% for those 45–64 years of age (Agency for Healthcare Research and Quality [AHRQ], 2016). From 2006 to 2013 there was a 12% increase in emergency room visits related to suicidal ideation with 12% of patients presenting with a co-occurring injury. Self-inflicted injuries were most common in the 18–24 years and females were more likely to self-injure than males accounting for 11.1% (AHRQ).

Approximately 25% of those who self-injure engage in a one-time act and stop within 5 years of onset (The Cornell Research Program on Self-Injury and Recovery, 2017). Individuals with ready access to lethal means, such as firearms, may impulsively commit suicide when faced with increased life stressors. Assessing an individual with suicide ideation and/or self-injurious behavior is critical in determining the level of care necessary for treatment. The majority of those who commit suicide experience several stressful life events in the three months prior to suicide, such as interpersonal problems, rejection, loss events; work and financial problems and various other stressors. Protective factors include family/social relationships, religious/cultural beliefs, community involvement and previous non-suicidal behaviors (The World Health Organization [WHO], 2000).

Psychiatric hospitalization for individuals with behavioral health concerns is short term and symptom focused in today's healthcare systems. The average length of stay is 4–8 days (American Hospital Association [AHA], 2014). Individuals present with symptoms of depression, anxiety, suicidal and self-harm behavior, and substance abuse. Those who demonstrate an elevated risk for self-harm, may require multiple hospitalizations and are deemed at increased risk for suicide. Furthermore, in a long-term follow-up study of 137,319 subjects hospitalized for self-harm behaviors, it was found that there was a six-fold increase in psychiatric hospitalizations (Beckman et al., 2016).

Psychoeducation is an intervention offered to those with a mental health condition and can be provided in both individual or group formats and based on varying theoretical models and theories such as cognitive-behavioral theory, and a social support model (Lukens & McFarlane, 2004). It is defined as a “professionally delivered treatment modality that integrates and synergizes psychotherapeutic and educational interventions” (Lukens & McFarlane, 2004, p. 206). It is designed to support strengths and foster skill acquisition and autonomy to deal with health-related issues. As a preventive measure the goal of psychoeducation is to stabilize a potential escalation and avoid a more serious health risk or event. The individual's own capabilities, resources and coping skills are strengthened, and contribute to their improved health and wellbeing on a long-term basis (Bauml, Frobese, Kraemer, Rentrop, & Pitschel-Walz, 2006). Four broad goals have been attributed to psychoeducation: information transfer; emotional discharge; support of a treatment or medication and; assistance toward self-help.

Purpose of the study

The purpose of the study was to determine the outcome of a psychoeducational resourcefulness program, utilizing hand puppets as a teaching tool, on the measure of resourcefulness for hospitalized women who self-harm. Therapeutic puppetry, as a teaching tool, can provide a safe and secure vehicle to increase engagement, explore past experiences and practice adaptive coping skills. Acceptability and feasibility of offering a resourcefulness psychoeducation program utilizing therapeutic puppetry was assessed.

Theoretical framework

Resourcefulness

Resourcefulness as a concept has emerged as a middle-range theory defined as the ability to deal skillfully and promptly with new situations, oftentimes stressful and difficult. It is described as having two parts: personal and social and contains four main constructs. As a

concept, it has wide-ranging implications for nursing practice.

The term *learned resourcefulness* was first described by Rosenbaum and has been the subject of numerous studies over the past thirty-five years (Rosenbaum, 1980; Ngai & Chan, 2012; Chung et al., 2012; Wang, Lai, Chang, Huang, & Zauszniewski, 2015; Lai et al., 2014; Zauszniewski, 1995a, b; Zauszniewski, 1997). It is derived from the literature on stress-handling behaviors (Lazarus, 1976) and coping skills therapies (Meichenbaum, 1977a, b). Rosenbaum described the concept as an acquired cognitive-behavioral repertoire of self-control skills used by an individual when faced with a situation requiring self-control (Rosenbaum, 1989). These skills are acquired from birth, utilized in fostering adaptive health behaviors, serve as a basis for coping with stressful situations (Staats, 1975), provide the individual with the means to control emotions and delay self-injury (Zaki, Coifman, Rafaei, Berenson, & Downey, 2013), and consequently improving health outcomes. Individuals with high levels of resourcefulness will cope more effectively with the anxiety and pain associated with the experience than those with low levels of resourcefulness (Rosenbaum, 1989).

Literature review

Self-injurious behavior

There is broad acceptance in the literature that the prevalence of self-injurious behavior is increasing (The Cornell Research Program on Self-Injury and Recovery, 2017). Individuals who engage in self-injurious behavior (SIB), use it as a coping strategy to deal with emotional dysregulation. The intent of causing physical pain or hurt to self, serves as a distraction or relief from the experience of intense and intolerable emotions (Hicks & Hinck, 2007). The behaviors most often observed include scratching of the skin with sharp objects, cutting or carving of the skin, burning, punching objects, head banging, and embedding objects under the skin or in bodily cavities. Individuals who repeatedly self-injure may develop deliberate self-harm syndrome (DSH) characterized by “brooding about self-harm, self-identification as a ‘cutter’ or ‘burner’, and rapid, temporary relief after an act of self-harm from numerous symptoms, especially anxiety, episodes of depersonalization, and depression” (Favazza, 2006, p. 2283). Failure to control these urges and awareness of the bodily mutilation and isolation can increase the risk of suicide.

Interruption of the maladaptive coping cycle of SIB, can be attained through the introduction of effective coping strategies to deal with the experience of emotional dysregulation. Individuals may choose less physically damaging interventions to break the SIB cycle such as snapping a rubber band on their wrist in response to the urge to self-injure. Pain tolerance and pain persistence were examined in relation to self-injury and frequency of suicide attempts (Law, Khazem, Jin, & Anestis, 2017). The ability to acquire pain tolerance and pain persistence (Franklin, Hessel, & Prinstein, 2011) occurs through habituated painful life experiences including non-suicidal self-injurious behaviors (Koenig, Thayer, & Kaess, 2016), and childhood abuse (Fillingim & Edwards, 2005). Suicidal behavior requires acceptance that pain or the threat of pain will occur (Joiner, 2005; Klonsky & May, 2015) therefore pain tolerance and pain persistence are critical factors in accelerating non-suicidal behavior to lethal suicidal behavior. Individuals with repeated hospitalizations because of self-injurious behaviors are at an increased risk for ultimate lethal outcomes and can benefit from resourcefulness skill education to interrupt this cycle of self-injury. During hospitalization, it is common for individuals to participate in groups that focus on acquisition of skills that can provide the individual with an alternative to self-injurious behavior. Cognitive behavioral therapy (CBT) and dialectical behavioral therapy (DBT) including mindfulness training are two such examples.

Learned resourcefulness

Rosenbaum's (1990a, b) theory of resourcefulness described the use

of cognitive-behavioral skills in the performance of daily activities, despite interference from disturbing events, as *personal resourcefulness*. Resourcefulness is conceptualized as having four constructs: a) use of cognitive “self-statements” to control emotional and physiological responses; b) use of problem-solving strategies (e.g. planning, problem definition, evaluating alternatives, anticipation of consequences); c) ability to delay gratification; and d) perceived self-efficacy (Rosenbaum, 1980). Self-efficacy is defined as “the conviction that one can successfully execute the behaviors to produce the outcome” (Bandura, 1977). Nadler described the access of resources, both formal and informal, external to the individual as *social resourcefulness* (Nadler, 1990). The conclusion was that both personal and social resourcefulness were important for achieving positive health outcomes and are complementary (Nadler, 1990), highly associated (Rapp, Shumaker, Schmidt, Naughton, & Anderson, 1998), and equally important in achieving positive health outcomes in older adults (Zauszniewski, 1996).

Zauszniewski further defined the personal and social attributes of resourcefulness (Zauszniewski, 1995a, b). Four main constructs of resourcefulness were described: a) antecedent contextual factors, b) process regulators, c) resourcefulness and d) quality of life indicators (Zauszniewski, 2016). Antecedent contextual factors include demographic characteristics, health-related conditions, and symptoms and are intrinsic to the person. Extrinsic factors include social influences from the outside environment. Process regulators are those intervening variables that may modify or mediate personal and social resourcefulness. Quality of life indicators are related to positive health outcomes such as adaptive functioning (Zauszniewski & Bekhet, 2011).

Three dimensions were identified: a) self-control; b) self-direction, and c) self-efficacy (Zauszniewski, 1996). It was proposed that interventions be developed that fostered these dimensions utilizing self-regulating techniques; cognitive re-structuring and problem-solving training. Such interventions can support emotional regulation, reduce depressive cognitions, and positively impact on mental health. Nursing interventions using resourcefulness skills were seen to positively affect the impact of those experiencing disturbing internal processes such as pain or anxiety (Zauszniewski, 1996). Zauszniewski, Lai, and Tithiphontumrong's (2006) study on the development of a Resourcefulness Scale (RS) explored the combination of two previously tested instruments, the Self-Control Schedule (SCS) (Rosenbaum, 1980), and the Help-Seeking Resource Scale (HSRS) (Zauszniewski, 1998) and tested them for construct validity. As a result, the Resourcefulness Scale© (RS), which combined and tested both personal and social dimensions of resourcefulness, was developed (Zauszniewski & Bekhet, 2011).

Therapeutic puppetry

Puppets have long been recognized as a therapeutic intervention to “exteriorize conflict through symbolic action” (Irwin, 1983). A three-dimensional art form with the capacity for movement and speech, puppets have been used as an outlet for individuals who find it difficult to express emotions (Bernier & O'Hare, 2005). The use of puppets as a therapeutic technique has been used to provide a safe vehicle of expression for children to tell their stories of abuse, neglect and trauma (Butler, Guterman, & Rudes, 2009). Gustafson described the use of puppetry with hospitalized adults in a psychiatric setting. It was suggested that puppets enhanced learning through simple presentation of ideas and controversial subjects, were versatile as they relate to cultural identity, and were useful for any age group (Gustafson, 1980). The use of puppets stimulated interest and engagement, aroused curiosity and imagination, conveyed facts and concepts through visualization, and fostered expression of thoughts and feelings (Gustafson, 1980). In a setting for individuals with schizophrenia, puppetry was introduced into a creative arts program with the goal of social rehabilitation specific to building self-esteem, self-reliance, and self-direction. The use of

puppets was reported to help individuals expand their expressive responses, improve interpersonal relationships, and stimulate creative thinking and activity (Koppelman, 1984).

Therapeutic puppetry with children was reported as a physically and psychologically safe technique, allowing the child, through a form of disguise, to displace unacceptable feelings about themselves or significant others, and externalize the conflict, without fear of retaliation. The child experiences a decrease in the physical symptoms of anxiety, acting-out behavior is lessened, and the child is more accessible to reassurance and learning about problem-solving strategies (Bromfield, 1995; Synovitz, 1999). A study conducted with children 10–11 years of age, compared diabetic teaching outcomes using two different teaching strategies. One group utilized puppets as part of the teaching plan and the other group excluded the puppets. The findings suggested that the children in the puppet group were frequently more expressive than the non-puppet group. The children were more likely to discuss difficulties with their treatment regimens, expressing both positive and negative feelings about their illness, whereas the non-puppet group tended to express only negative feelings. The puppets provided a vehicle to safely distance themselves from the emotional impact of their illness while supporting positive inner resources and an emerging sense of control over their life situation (Pelicand, Gagnayre, Sandrin-Berthon, & Aujoulat, 2006).

Puppetry has been utilized in academic settings as an innovative strategy to develop skills through simulation. In one study, nursing students participated in focus group interviews following the introduction of the Pup-ED (KRS Simulation) program. The use of puppets enlivened the learning process and improved interpersonal skills of the nursing students providing a safe, interesting and stimulating setting to practice communication skills (Tilbrook, Dwyer, Searl, & Parson, 2017). Currently there is no literature on the use of hand puppets as a teaching tool in psychoeducation programs for hospitalized adult women psychiatric settings who have a history of self-injurious behavior.

Research question

What is the effect of a psychoeducational resourcefulness program, utilizing hand puppets as a teaching tool, on the measure of resourcefulness, for hospitalized adult women who self-injure?

Methods

Design

A psychoeducational program on the use of resourcefulness was developed utilizing hand puppets as a teaching tool for hospitalized adult women reporting at least one episode of self-injurious behavior prior to psychiatric admission.

Sample

The sample included adult women between 18 and 65 years of age admitted to a psychiatric hospital with a history of self-injurious behavior. To be included, the women had to present with non-psychotic symptoms and be English-speaking. Women admitted for treatment of organic dementia or a psychotic disorder were excluded from the study.

Setting

An acute adult 22-bed psychiatric unit within an academic health-care organization, with an average length of stay of 7–10 days.

Intervention

The psychoeducational program focused on teaching the concepts of resourcefulness as an alternative strategy to self-injury. The use of

therapeutic puppetry as a vehicle to safely discuss emotional difficulties and self-injurious behaviors was reviewed. The leader opened each group session by introducing the participants to a nurse puppet named *Youcan Doit, RN*. The leader demonstrated the interactional possibilities such a puppet could have for participants to engage in a manner different from conventional group programs. Providing individuals with education focused on understanding the importance of developing a broader set of resourcefulness skills can increase their ability to cope with stressful life events, regulate their emotions more effectively, and reduce self-injurious behavior (SIB). The program was offered in two-weekly 45-minute group sessions. Concepts related to resourcefulness included discussion of social and personal resourcefulness, as well as the dimensions of resourcefulness: self-control, self-direction and self-efficacy. Participants were asked to share stories related to successful or unsuccessful use of social and personal resourcefulness. Hand puppets, representing diverse races as well as male and female gender, were presented to the participants to utilize in their story telling and to facilitate the learning process through interactive role-play. The group setting provided a safe environment to discuss current coping strategies, including self-injurious behaviors. Participants were asked to describe a personal situation or interaction that had been problematic and select another participant to role play the interaction presented. Each participant selected a corresponding puppet of their choice to represent the individuals described in the situation. Each role-play activity lasted approximately 5–10 min followed by discussion of the resourcefulness skill used and additional feedback from the remainder of the group members.

Instrument

The Resourcefulness Scale (RS) used in this study with permission from Dr. Zauszniewski, PhD, consists of 28 items and uses a 6-point Likert-type scale measuring both personal and social resourcefulness (Zauszniewski et al., 2006). Sixteen items were derived from the Self-Control Schedule (SCS) (Rosenbaum, 1980, 1990a, b) and measure personal resourcefulness (self-help) and 12 items were derived from the Help-Seeking Resource Scale (Zauszniewski, 1998) and measure social resourcefulness (help-seeking). Scores range from 0 to 140 with higher scores reflecting increased resourcefulness. Psychometric testing was completed on an $n = 225$ and showed a correlation between all items to be 0.41 ($p < 0.001$). Cronbach's alpha for the new 28-item scale was 0.85 for internal consistency and construct validity (Zauszniewski et al., 2006).

Procedure

Institutional Review Board (IRB) approval was obtained from the appropriate institutions prior to initiation of the pilot study to ensure protection of human subjects. All participant involvement was voluntary. Informed Consent and HIPAA Authorization for Clinical Investigation was obtained from all study participants in the study. Data collected from all tools was kept completely confidential and without personal identifiers and in a locked file cabinet. Computerized data was password protected.

Four clinical nurses, identified as co-investigators, were given a two-hour orientation session including the concepts of therapeutic puppetry and learned resourcefulness. The orientation session included an overview of resourcefulness as a concept and mid-range theory. The co-investigators were provided with the overview of the education program, inclusion/exclusion criteria for participants, the process of obtaining informed consent and the completion of the background questionnaire, program evaluation and Resourcefulness Scale (RS) including scoring criteria. One clinical nurse co-investigator attended each group session to facilitate the completion of the background data questionnaire, the pre/post Resourcefulness Scale (RS) and the program evaluation. During the role-play activities utilizing the hand puppets,

the clinical nurses were available to partner with a participant, if requested, in the telling of their story/situation.

A notice was provided to the leadership of the selected inpatient psychiatric unit describing the study and inclusion/exclusion criteria. Potential participants were identified by the unit nurse leader or his/her designee and were screened for age, diagnosis, and history of at least one prior episode of self-injurious behavior. Once inclusion criteria were met, a clinical nurse co-investigator met with each participant to provide an overview of the study and obtain informed consent.

A total of five patient education programs, comprised of two group sessions (Group I, II) each were offered over a four-week period for a total of 10 group sessions. Participants were recruited and asked to complete the program within their first week of admission to the hospital.

Upon admission, participants who met eligibility criteria were met with by select staff who provided an overview of the study and obtained informed consent. Participants were asked to attend both group sessions during their first week of admission to the hospital. The group sessions (I/II) were held on consecutive days within the same week. Participants were asked to fill out a background data questionnaire prior to the start of the program. The Resourcefulness Scale (RS) (Zauszniewski & Bekhet, 2011) was utilized as the outcome measure of learned resourcefulness and was administered pre and post patient education program. Upon completion of the program, a 10-question program evaluation questionnaire was administered. Several questions pertaining to the effectiveness of puppets as a teaching tool and acceptability and feasibility of resourcefulness skills education in future group programs, was included.

Analysis of data

Statistical considerations/sample size

A sample size of 30 adult females were recruited over a three-month period based on logistical considerations related to admissions to the unit and conforming to the exploratory (i.e. hypothesis-generating) nature of the study. With the expected maximum of 30 participants enrolled, a paired t -test with a 0.05 two-sided significance level will have 80% power to detect an average change in paired differences in Resourcefulness Scale (RS) total score of at least 10.6 points from pre-intervention to post-intervention. This was based on an estimate of the standard deviation of paired differences in RS score of 20.0 points. While no such estimate has been reported in the literature, a 2011 study by Zauszniewski and Bekhet reported a standard deviation of raw scores on the RS of 15.1 points in a predominantly female population. This value was used as a benchmark, but a higher SD for paired differences was chosen to be more conservative.

Descriptive statistics (i.e., mean, standard deviation, median, interquartile range) were calculated for RS total score, pre-and-post intervention, and reported for the sample. The paired t -test was used to assess change in resourcefulness in the overall cohort pre-vs. post session. All p -values were two-sided with statistical significance evaluated at the 0.05 alpha level. Ninety-five percent confidence intervals for parameters of interest were calculated to assess the precision of the obtained estimates. All estimates generated from this study were considered exploratory (i.e., hypothesis-generating) and will serve as preliminary data for future work. All analyses were performed in SAS Version 9.4 (SAS Institute, Inc., Cary, NC).

Additional analysis

The information related to group process and the use of therapeutic puppetry was collected as additional data to inform future programs. The session and program evaluation data were analyzed for acceptability and feasibility of a resourcefulness skill program. Data collected regarding the use of puppets as a teaching tool was analyzed to

determine the impact on learning outcomes.

Results

Twenty-three participants were recruited, resulting in an $n = 16$ completing the two-session patient education program. Seven participants did not complete the program. Three participants were discharged from the hospital prior to the second group session; 3 participants refused to attend the group session on the day of the scheduled group; 1 participant requested to leave Group I prior to the end of the session. The average age of the participants was 24 years. Nine participants (56.3%) identified as Caucasian, three (18.8%) as Hispanic, two (12.5%) as African-American, one (6.3%) as Asian and one (6.3%) as “other”. Thirteen (81.3%) participants were single, one (6.3%) was married, and two (12.5%) identified as “other”. Nine (56.3%) participants were attending or had attended college, five (31.2%) had completed high school and two (12.5%) were attending graduate school. Six (37.5%) reported that this was their first psychiatric hospitalizations (Answer = yes). Of those responding (Answer = no), nine (56.2%) had been hospitalized previously within the past year and one (6%) had a previous hospitalization within the past two years. This data is displayed in Tables 1 and 2.

The Resourcefulness Scale results pre-and post- intervention demonstrated slight improvement in the measure of resourcefulness overall ($M = 75.6$ to $M = 78.7$, $p = 0.40$) but these differences were statistically insignificant. The social resourcefulness scores ($M = 35.3$ to $M = 36.3$, $p = 0.65$) increased by 1 point while the personal resourcefulness score ($M = 40.3$ to $M = 42.4$, $p = 0.31$) increased by 2.1 points. The sample size ($N = 16$) was insufficient to determine a significant increase in resourcefulness at either the social or the personal level (Table 2).

Program evaluation

The evaluation of the overall program results provided important data for future studies and potential nursing interventions with this population. The use of puppets as a teaching tool including the use of role-play was rated positively by 68.8% and 81.3% respectively. Participants were asked to discuss self-control, self-direction and self-efficacy as examples of how they utilized these types of resourcefulness in their lives. Examples of self-control utilized during episodes of emotional dysregulation were identified as skills used to interrupt the urge to self-injure, and included listening to music, writing in a journal, talking to a friend. Self-direction as a problem-solving strategy was more difficult for participants to describe. Several participants

Table 1
Patient characteristics ($N = 16$).

Characteristic	Value
Age	24.1 (5.9)
Race/ethnicity	
African-American	2 (12.5%)
Asian	1 (6.3%)
Hispanic	3 (18.8%)
White	9 (56.3%)
More than one	1 (6.3%)
Marital status	
Married	1 (6.3%)
Single	13 (81.3%)
Other	2 (12.5%)
Education	
High school/GED	5 (31.2%)
College	9 (56.3%)
Graduate	2 (12.5%)
First hospitalization	6 (37.5%)
Previous hospitalization < 1 yr.	9 (56.2%)
Previous hospitalization > 1 yr.	1 (6.2%)

Table 2
Resourcefulness Scale (RS) Paired t -test for pre-and post-intervention measures ($N = 16$).

Measure	Pre-intervention	Post-intervention	95% CI for difference in means	p -Value
	Mean (SD)	Mean (SD)		
Total score	75.6 (18.5)	78.7 (26.0)	(−10.8, 4.6)	0.400
Social score	35.3 (8.0)	36.3 (11.7)	(−5.3, 3.4)	0.652
Personal score	40.3 (12.7)	42.4 (17.7)	(−6.7, 2.3)	0.317

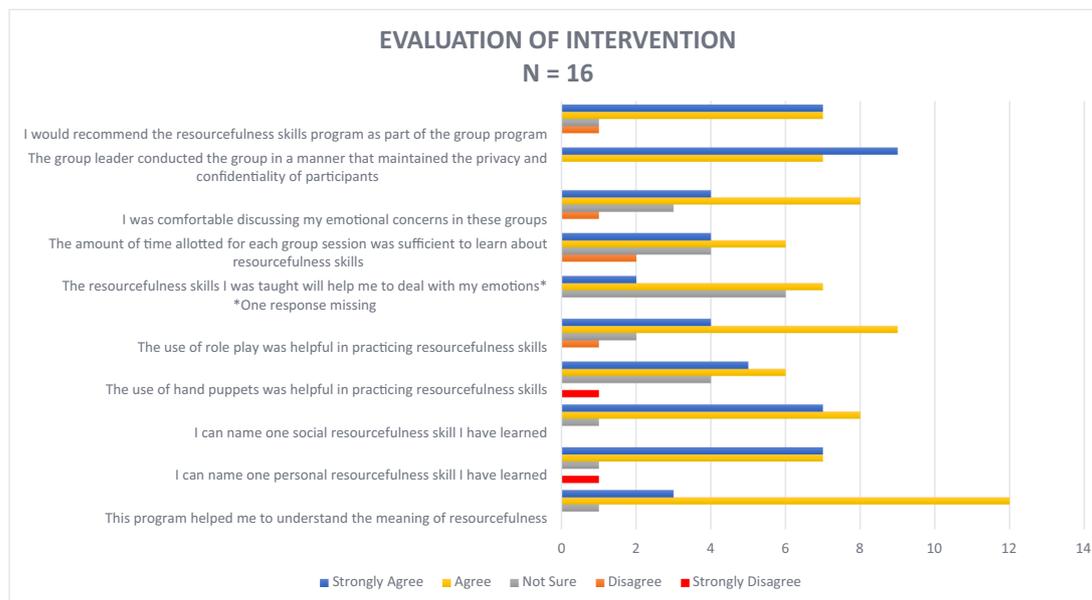
discussed examples of what has worked for them in the past as an effective coping strategy, but these strategies were not always successful in every situation. The most consistent report from the participants involved self-efficacy. Participants agreed that if they did not “feel good about themselves”, then they had little belief they could change their behavior leading to lack of self-control and self-direction. Ninety-four percent reported an increased understanding of the concept of resourcefulness, 87% reported they could name one personal resourcefulness skill learned, and 94% reported one social resourcefulness skill learned. Fifty-five percent of the participants reported that learning about resourcefulness would help them deal with emotional regulation. In summary, 87% of the participants reported they would recommend a resourcefulness education program, utilizing puppets to facilitate the learning process, be added to the treatment program on the inpatient psychiatric unit (Table 3). Acceptability of a resourcefulness psychoeducation program utilizing therapeutic puppetry was determined to be positive. Regarding feasibility, participants were enrolled in the program during their first week of hospitalization, however the schedule of the group sessions, two per week, were a challenge for the participants. The group sessions were scheduled on Wednesdays and Thursdays. For some this occurred on their first day of admission to the inpatient unit and for others, it could be day 5 or 6. This may have had an impact on the pre-post Resourcefulness Scale scores and would need further exploration in future programs.

Discussion

In this study we explored the use of hand puppets as a teaching tool on the measure of resourcefulness as a result of a psychoeducational program exploring resourcefulness. The setting was an acute inpatient psychiatric unit dedicated to treatment of individuals with a history of self-injurious behaviors requiring an average stay of 7–10 days for stabilization and safety.

During the inpatient stay, therapeutic groups were offered to assist individuals with developing coping strategies to manage their emotions. Exploring the resourcefulness concept as a coping strategy within a psychoeducational program, was the one aspect of the study. However, hand puppets were introduced as a tool to enliven the learning process and to foster a sense of emotional distance from disturbing emotions. Sixty-nine percent ($N = 11$) of participants reported that the use of hand puppets was useful in practicing resourcefulness skills with 81% ($N = 13$) reporting the role-play activity utilizing the puppets was useful. Small groups, with between two and five members, were formed to teach about both resourcefulness and therapeutic puppetry. The participants expressed a mixture of curiosity and reluctance when asked to participate in the group sessions but became engaged and interactive during the role-play activities. The participants sat around a table on which the puppets were displayed awaiting the role-play activity. During the information section of each group, the participants, without being directed, would choose a puppet and place the puppet on their hand to practice moving the mouth and hands. The puppets choices were ethnically and culturally diverse, both male and female. One participant, who struggled with gender identity chose a

Table 3
Evaluation of intervention (N = 16).



male puppet with pierced earrings to enact her role-play. Bromfield discusses the role of puppets in play therapy as representing physical and psychological safety of expression without fear of retaliation (Bromfield, 1995). On another level, the puppet choice may have provided a clue the participant was reluctant to reveal directly. Utilizing puppets as story-tellers was viewed as a common experience of all, citing the long running children's television program, *Sesame Street*, and its familiar puppet characters as central to their early learning experiences. In one group session, the participants requested that at the end of the session they be permitted to view a *You Tube* video of a comedy sketch from another television program, *Saturday Night Live* (SNL), portraying an individual attempting to instruct a group on the use of hand puppets. In this example, the level of engagement among the participants in the study was noticeably increased, including support for the intervention and an increased ability to focus and learn during the role-play activity (Tilbrook et al., 2017). The use of puppets as a teaching tool was shown to have a positive impact on the learning process. Eighty-eight percent ($N = 14$) reported they could name one personal resourcefulness skill they had learned while 94% ($N = 15$) could name one social resourcefulness skill. Eighty-one ($N = 13$) percent reported that role-play was helpful in practicing resourcefulness skills and 69% ($N = 11$) reported hand puppets helpful. Ninety-four percent ($N = 15$) of participants reported the program as helpful in understanding the meaning of resourcefulness. Seventy-five percent ($N = 12$) reported feeling comfortable discussing their emotional concerns within the group sessions.

Participants revealed a list of skills they employed in their efforts to avoid self-injury. Listening to music, reading, exercising, journaling, and drawing/painting were common themes discussed as efforts to control or delay self-injury during times of emotional dysregulation. Those participants previously hospitalized in this setting were exposed to CBT and DBT skills training and reported both successful and unsuccessful efforts to control their urges to self-injure. Social resourcefulness, described as help-seeking behavior, showed no significant results on the measure of resourcefulness pre and post intervention ($M = 35.3$; s.d. 8; $p = 0.4$ pre-intervention) versus ($M = 36.3$; s.d. 11.7; $p = 0.652$ post-intervention). Most participants were involved in ongoing professional help outside the hospital and described being an active participant in seeking help from family and provider for recent hospitalization.

In the case of self-injurious behavior, the short-term goal is immediate relief from overwhelming emotions through self-injury while the long term-goal is a decrease in high-risk behaviors and an increase in more adaptive coping strategies. Participants in the study described efforts to utilize self-control behaviors as not consistently helpful in preventing self-harm behavior. The definition of self-control refers to the behavior of an individual choosing between two options, one less attractive than the other at the moment of choice. DeWitt and DeCremer explain that an external reason needs to be present to explain the need for self-control where the conflict exists between the perception of the long-term goal versus the short-term goal (DeWitte & DeCremer, 2001). Overwhelming emotions interfered with more adaptive coping strategies followed by feelings of guilt and shame. One participant described, in relation to self-efficacy, that if one does not believe that their efforts will be successful, they cannot utilize self-control effectively.

Self-efficacy, as a type of resourcefulness, was not measured by the Resourcefulness Scale, however its prominence in the discussions among the study participants suggests a need for further study. Bandura's theory of self-efficacy explores the psychological processes of *outcome expectancy* and *efficacy expectancy*. Outcome expectancy is defined as the belief that a certain behavior will have an expected outcome. Efficacy expectancy is the belief that one can successfully perform the behavior needed to reach the expected outcome (Bandura, 1977). If an individual believes that a specific behavior will have a certain outcome but questions their ability to perform that behavior, the behavior will not change (Bandura). If an individual does not believe they can be successful, they may avoid trying. In the case of self-injurious behavior, the emotional dysregulation individuals experience can have a major impact on their ability to perceive they can alter their behavior in any way to control self-injurious behavior or use alternative coping strategies in lieu of self-injury. Alternatively, the stronger the perception of self-efficacy, the more persistent the individual will be in their efforts to face adverse experiences (Bandura, 1977).

Limitations

During short-term hospital stays, opportunities to provide psychoeducational resourcefulness programs are limited. The results of this study demonstrated no significant change in the measure of

resourcefulness (RS) as a result of the psychoeducational program due, in part to these time constraints ($M = 75.6$; s.d. 18.5 pre-intervention) versus ($M = 78.7$; s.d. 26.0 post-intervention). The program was offered on two consecutive days with minimal time for participants to reflect on the concepts or practice the types of skills reviewed. In a longitudinal study by Musil et al. it was recommended that “ongoing, consistent, and reinforced skills training” is needed to improve overall health outcomes (Musil, Jeanblanc, Burant, Zauszniewski, & Warner, 2013, p. 233). Another limitation was the small sample size ($n = 16$). Extending the study beyond the three-month time frame may have increased the number of participants and therefore provided significant results.

Recommendations for future research

Therapeutic puppetry has a potential benefit, as a nursing intervention, to increase participant engagement in psychoeducational programs and skill acquisition with a long-term goal of improved health outcomes. This technique can be utilized in a variety of health settings with diverse populations. The universality of puppetry has a long tradition of capturing the imagination and attention of people of all ages across the world (Viklund, 2017).

Psychoeducational interventions offer a wide range of modalities to support skill acquisition. In one study of 30 male adolescents in a Turkish orphanage, a structured education program was designed to improve hope and self-esteem and decrease the risk of suicide. Following a sixteen-session program over an eight-week period, the results showed a significant increase in the Rosenberg self-esteem scale (RSES) and a decrease in the suicidality probability scale (SPS) (Ozurk & Ekinci, 2018).

Further research is needed to assess whether there is a difference in the measure of resourcefulness for individuals experiencing their first psychiatric hospitalization versus those with a history of multiple psychiatric hospitalizations. Self-injurious behavior is common in individuals with borderline personality. More research on the incidents of high-risk self-harm behaviors in individuals with comorbid borderline personality disorder (BPD) and major depressive disorder (MDD), and the impact on the measure of resourcefulness skills may provide new directions in the development of specific preventive interventions.

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