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## Processing: Possibilities for Therapeutic Recreation

Susan L. Hutchinson and John Dattilo

*Processing* is a facilitation approach designed to facilitate learning, awareness, and change. Strategies such as frontloading, debriefing, providing immediate feedback, and use of metaphors are employed to assist individuals in interpreting their participation in activities. The purpose of this paper is to review literature to help determine how processing could be a facilitation technique used by therapeutic recreation (TR) practitioners. A review of terms, techniques, and research developments related to processing is provided. This literature review highlights the need for both research and staff training if processing is to be used effectively as a facilitation technique in TR.

**KEY WORDS:** *Adventure-Based Programming, Facilitation Techniques, Processing, Debriefing, Therapeutic Recreation*

People simply don't learn, grow, or change without reflection on their experiences; without evaluation of the good and bad; without analysis of mistakes, failures, or successes; without considering the impact of actions and decisions, without anticipating consequences or committing to new behaviors; and without understanding how they can use new learning, growth, and change. You can facilitate these gains by escorting people through the process and by accelerating it. (Priest & Gass, 1997a, p. 174)

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*Processing* is a tool for facilitating reflection, dialogue, and individual change that, as Priest and Gass suggested above, can move people through and accelerate the therapeutic change process. Facilitating change is also an end to which therapeutic recreation (TR) services are directed (Mobility, 1999).

The purpose of TR is to "help people with illnesses, disabilities, and other conditions to develop and use their leisure in ways that enhance their health, functional abilities, independence and quality of life" (National Therapeutic Recreation Society, 2000). TR services—treatment, leisure education, or recreation participation (Stumbo & Peterson, 1998)—are directed towards facilitating physical, cognitive, psychological, or emotional change. Being a skilled therapist, then, involves more than teaching specific activities or activity-related skills; it involves helping people make sense of what is learned in the therapeutic process and applying the learning to purposeful change in their lives outside TR services or programs.

Processing has traditionally been utilized within the context of adventure-based learning and therapy (Bacon, 1983; Gass, 1993, 1995; Hammel, 1986; Knapp, 1990, 1993; Luckner & Nadler, 1995, 1997; Miles & Priest, 1990; Nadler & Luckner, 1992; Quinsland & Van Ginkel, 1984; Schoel, Prouty, & Radcliffe, 1988; Smith, 1993). Nadler and Luckner explained that processing is effective in this context because adventure-based learning experiences are "rich in symbols, metaphors, feelings, and typical behavior patterns" (p. 3). Like adventure-based education and therapy, TR emphasizes the experientially-oriented and holistic nature of activity. Recreation activities (e.g., sports, expressive arts, or other personally meaningful forms of activity engagement) are laden with opportunities for individuals to experience challenge, self-determination and enjoyment (Dattilo, Kleiber, & Williams, 1998). These experiences have the potential to facilitate self-discovery and personal growth. While adventure therapy is seen as one of a number of facilitation techniques that can be

utilized by TR providers (Groff & Dattilo, 2000) very little research or program development has been applied to elaborate processing techniques and strategies in non-adventure-based TR programs and activities.

The purpose of this paper is to review research, primarily from the adventure-based programming literature, to explore the potential relevance and use of processing as a facilitation technique in TR. This paper begins with a review of terms and techniques associated with processing. An overview of research developments related to processing follows. Much of the literature reviewed in this paper is associated with adventure-based programming (programs that utilize activities done primarily in the outdoors that involve a degree of risk and/or challenge). The paper ends with some speculations for how processing can be applied to TR service delivery and outlines recommendations for future research. This literature review highlights the need for both research and staff training if processing is to be effectively used as a facilitation technique within TR programs and interventions.

### Processing

When the term *processing* is used, images of a group of people sitting cross-legged in a circle talking about what *happened* after some activity are conjured up. Yet, the traditional group discussion is but one of a myriad of strategies, activities, and techniques that are intentionally used to provide participants opportunities to reflect on, interpret, and make inferences about their experiences. Processing is the umbrella term for a set of facilitation techniques (e.g., frontloading, debriefing, feedback, and use of metaphors) designed to assist people in describing, reflecting on, analyzing, and communicating about experiences (Gass, 1993a, 1993b; Knapp, 1990; Luckner & Nadler, 1997; Nadler & Luckner, 1992; Priest & Gass, 1993). Processing is directed toward helping people transfer or generalize what they have learned in an activity-based experience to other life contexts (e.g., home, community, school). Processing involves not only attend-

ing to the immediacies of the experience but also relating important aspects of the experience to future issues. As Gass (1990) suggested, the value of a program lies in how learning experienced during the activity will serve the learner in the future. Luckner and Nadler (1997), expanding Gass's (1993a) work, indicated that processing can be used to:

- (a) help individuals focus or increase their awareness on issues prior to an event or to the entire experience;
- (b) facilitate awareness or promote change while an experience is occurring;
- (c) reflect, analyze, describe, or discuss an experience after it is completed; and/or
- (d) reinforce perceptions of change and promote integration in participants' lives after the experience is completed. (pp. 8-9)

Processing is based on experiential learning theories (e.g., Dewey, 1938; Kolb, 1984), which suggest that learning is a *process* that involves experience (engagement in activity), reflection, analysis, and application of what has been learned to one's everyday life (Luckner & Nadler, 1997; Nadler & Luckner, 1992). This learning "becomes part of one's background knowledge for the next experience" (Luckner & Nadler, p. 7). While processing most often involves some form of dialogue or discussion in group settings, it can occur through activities such as journal writing, dyadic conversations, writing activities, drawing, drama, or solo journeys (Luckner & Nadler, 1997; Smith, 1993).

Processing is itself is a process; questions or activities are intended to funnel attention from general awareness of one's behavior, feelings or thoughts, to acknowledging self-responsibility, to making choices, and then applying these choices to other life contexts. For example, key questions asked over coffee in a mall can transform an outing by a group of newly disabled adults from being a diversion-

ary escape from a rehabilitation center to an opportunity to reflect on and talk about issues associated with physical access or stigma management. By processing the experience with participants the TR practitioner can help them see how their experiences in the mall might be relevant for their lives after discharge. Processing, then, helps people internalize meaning from experience (Knapp, 1990). It is designed to *augment* aspects of an individual's experiences within programs or activities to enhance outcomes of the therapeutic process.

### Forms of Processing

The following section details four different forms of processing: frontloading, debriefing, giving feedback, and the use of metaphors. Two of the techniques—frontloading and debriefing—are time-dependent. Frontloading occurs *before* the activity and debriefing occurs *after* the activity, whereas giving feedback and use of metaphor are embedded throughout the activity or therapeutic process.

### Frontloading

*Frontloading* is a term used for highlighting, or loading, the learning prior to, or in front of, an activity. For example, a TR specialist may want individuals in her leisure lifestyle group to focus on a particular aspect of a community outing (e.g., speaking to people in public settings) that is part of a rehabilitation program. By talking to the group in advance of the actual outing ("when we're out I want you to pay attention to what you say to people you talk to in the mall/in the restaurant"), she sets the stage for what is about to occur and identifies specific issues to be discussed in debriefing afterwards.

"By loading the learning up front, debriefing simply becomes 'direction with reflection,' reemphasizing the learning rather than reacting to events" (Priest & Gass, 1997a, p. 183). According to Priest and Gass, this type of *prebriefting* that occurs before people participate in an activity can serve five functions:

- (a) review learning and commitments from previous activities; (b) review the aims of the activity and what can be learned or gained from the experience; (c) encourage reflection on motivations—why the experience may be important to them and how it relates to people's lives; (d) anticipate what behaviors will result in success and, conversely, (e) identify what behaviors will hinder success. (p. 183)

If frontloading is used, then debriefing that follows the activity can concentrate on discussions about *changes* participants experienced. However, Priest and Gass warned that extensive frontloading can overwhelm people by giving too much information. Therefore, the technique should only be used occasionally and only when targeting key points.

## Debriefing

*Debriefing* has been termed "learning through reflection" (Priest & Gass, 1997a, p. 178); it is "a process of guiding reflection on experience" (Priest & Naismith, 1993, p. 16) occurring *after* the activity to bring about change. Debriefing incorporates the use of reflective questioning and actively guiding discussion and analysis of the experience to help people "provide order and meaning to their experiences" (Priest & Naismith, p. 16). For example, a TR specialist may be attempting to assist a young woman with a severe traumatic brain injury to play a card game she previously enjoyed. Treatment directed to improving physical function (e.g., controlling her ataxia, communicating her play) is interwoven with a desire, on the part of the therapist, to ensure that this woman also enjoys the game. Debriefing the experience afterwards with her by asking key questions (e.g., "how can you play this at home," "how did you feel when you played the game?") may help her to attend to both the treatment and leisure-related components of the experience (Dartilo et al., 1998).

When debriefing is used, the leader pro-

vides participants with feedback, asks them probing questions, and talks with them about their experiences. The rationale for debriefing is that, if people discuss issues and state personal commitments to change based on what they had experienced, "then they would assume ownership of such issues, becoming more likely to follow through on change" (Priest & Gass, 1997a, p. 194). In this way it is expected that people who reflect on and interpret their participation in an activity would be more likely to assume ownership of the learning experience. However, debriefing is not necessarily useful in all situations. The inherent weakness of all debriefing is that it is based on verbal abilities. For some people, expressing emotions and thoughts in words may be very difficult (e.g., due to a developmental disability or following a stroke), or may be unacceptable within some cultures (e.g., Native Americans, some Asian cultures; Priest & Naismith, 1993). Nonetheless, debriefing is a tool that can be used in conjunction with most forms of TR services, including treatment, leisure education, and programs or activities that are participatory in nature.

## Feedback

*Feedback* is one of the most basic forms of communicating with program participants that can be offered at any point in the therapeutic process. Leaders will often spontaneously provide supportive comments (e.g., "good effort" or "that was great") during an activity about participants' involvement in a shared activity. Yet feedback, when used deliberately in the therapeutic process, is intended to provide people "with *clear data* on their performance and/or how others may view them" (Ivey, 1987, p. 256; emphasis added). Feedback, intentionally used, is expected to be descriptive (rather than evaluative), specific, well intended, directed toward change, solicited (rather than imposed), well-timed, and checked with sender and receiver (Ivey, 1987; Priest & Gass, 1997a). This process requires that leaders avoid evaluative judgments, focus on strengths of participants, direct their com-

ments to reinforcing behaviors the individual *can* do something about, and use feedback judiciously because people may not believe we are sincere if we say "great job" to each of them much of the time.

Generally, feedback involves the leader or other participants providing participants with information about their efforts or accomplishments (Priest & Gass, 1997a). For example, a TR specialist who is facilitating an art group could communicate his observation of participants' painting techniques or accomplishments and areas they might want to focus on to improve their skills, as well as identifying what they might be able to learn from the process. Priest and Gass called this "learning by telling" (p. 182). While feedback is foundational to basic attending and communication skills (e.g., active listening, paraphrasing; Ivey, 1987), it can be a useful tool in TR settings to validate self-affirming statements or behaviors and to reinforce learning.

## Use of Metaphors

A metaphor is an idea or description used in place of a different idea or description to symbolize similarities between them (Gass & Priest, 1993). Nadler and Luckner (1992) wrote about metaphor use as being similar to creating a map for people (here, we are using a metaphor to describe how metaphors work!). The process begins by orienting the map so that it accurately represents the learning objective to which the leader wants the individual to direct her efforts and attentions. A metaphor symbolizes, often, not only the path and direction to take (the process) but the destination (the desired outcome).

Metaphoric transfer of experiences requires the leader to highlight metaphoric connections that can be made by participants between the activity and their lives (Gass & Priest, 1993). The greater the strength of metaphoric connection between the experience and one's life, the stronger the clarity of connection (Gass & Priest). Gass (1993a) explained that three tasks are important in using metaphors in therapeutic settings: (a) construct metaphors that are

relevant to participants' needs, (b) frame experiences so that they can be interpreted and integrated into participants' perspectives, and (c) use debriefing techniques after the experience to reinforce change.

According to Gass and Priest (1993), metaphoric transfer requires the leader to frame the actual experience in such a way that it reflects relevant problematic daily issues. The goal then is to have the metaphor match a person's needs, mind-set, and objectives with an experience in such a way that successful completion of the experience mirrors successful resolution of the individual's issue. For example, a metaphor such as *climbing a ladder* can symbolize people's efforts to move beyond their present state of emotional discontent or physical immobility through activity participation. When used in conjunction with activity experiences, metaphors can help people consciously create a picture in their mind toward which they are trying to work. These metaphors can then be used to set the stage for activity engagement ("what do you need to do to climb that first rung?"), to reinforce effort during the activity ("how far up the ladder are you going?"), and to create possibilities for transferring the symbolic meaning of the experience to other aspects of a participant's life ("what parts of your life do you want to lean your ladder against?").

Several books and articles are available that describe the planned and spontaneous use of metaphors in adventure-based therapy (Gass, 1993a, 1993b; Luckner & Nadler, 1997; Nadler & Luckner, 1992; Quinsland & Van Ginkel, 1984) as well as individual and family counseling (Freedman & Combs, 1996; White & Epston, 1990). However, it seems that effective use of metaphors within a learning context requires leaders who are trained and skilled in their use (Luckner & Nadler). Additionally, some participants may have difficulty visualizing or comprehending some metaphors, and predetermined metaphoric messages used in an activity may be irrelevant for particular individuals (Gass & Priest, 1993).

## Summary

Techniques such as frontloading, debriefing, feedback, or use of metaphors are all forms of processing intended to extend activity participation. The aim in all cases is to facilitate generalization and transfer of learning from the activity experience to other life contexts. As Nadler and Luckner (1992) indicated, "an individual's real gain in a [program] should be measured by how much has been learned and if it can be sustained and applied after the experience" (p. 3). While some of this transfer may happen naturally (i.e., people "get something out of it" whether the leaders process the experience or not) the potential to increase this transfer of learning rests with the efforts and skills of TR leaders to intentionally incorporate appropriate processing approaches within the program experience. The next section will review research that has examined the use and efficacy of processing in therapeutic settings.

## Review of Research on Processing in Therapeutic Settings

Best practices have evolved over the years, particularly as they relate to various processing techniques used in adventure-based programming (cf. Gass, 1990, 1993; Knapp, 1990; Luckner & Nadler, 1997; Nadler & Luckner, 1992; Priest & Gass, 1997a). Adventure-based programs have been used extensively with people with and without disabilities as the basis for creating individual and/or group change (Hebert, 1996). However, little is known about what components of adventure-based programs are most effective in producing change (Cason & Gillis, 1994; Hattie, Marsh, Neill, & Richards, 1997). As Cason and Gillis identified, many studies are limited in what they can offer because of little documentation of specific activities and types of processing used. Hattie et al. noted that "although there is a rhetoric that the adventure program is a gestalt and that the whole is therefore more than the sum of the parts, this is a testable hypothesis. It may be that the post-

ive effects of the program are a function of particular part(s) of the program" (p. 72). There is a need to investigate the relationship between program characteristics (e.g., use of processing techniques) and outcomes.

The next section provides a brief overview of research on leadership characteristics and effectiveness, and the efficacy of different processing approaches used in adventure-based programs. A review and critique of this research will be used to determine how processing might work as part of the TR continuum (Sumbo & Peterson, 1998), and to what ends. Both the gaps in existing research and the need for future research will be identified and applied to TR service delivery.

## Leadership Characteristics and Effectiveness

Studies of leader characteristics and instructor effectiveness indicate a need for developing the skills possessed by leaders who incorporate processing in their interventions. The following studies help identify areas of leadership associated with adventure-based programming that can be applied to TR.

To examine effectiveness of instructors in an outdoor leadership training program, Phipps and Claxton (1997) employed senior staff to use the Instructor Effectiveness Questionnaire (IEQ) to assess student leaders being trained to lead canoe and kayak activities. Assessment of leadership effectiveness was based on experiential learning theory (Dewey, 1938). Desirable components of experiential education included the following eight constructs: structure (e.g., ability to set goals, structure learning), communication, perception (e.g., ability to engage participants at correct levels), motivation, arousal levels (e.g., ability to create appropriate levels of challenge, interest), feedback, group processing, action/practice, leadership, people skills, and safety. Observations by senior staff revealed that the lowest scores were associated with group processing. Anecdotal statements emphasized the need for students to learn how to

develop debriefing skills and skills needed to become reflective practitioners (able to reason and make accurate judgments of what is needed in situations). While this study refers to leadership within outdoor activities, it does emphasize the need for TR practitioners to possess both *hard* (technical/activity) and *soft* (processing) skills. TR practitioners are often very skilled at implementing activity programs, but good technical skills alone may not be enough to facilitate the transfer of learning from the activity to other life contexts.

Brackeieg, Luckner, and Pinch (1994) sought to determine skills considered essential for effective processing of adventure-based activities by reviewing the literature to "extract behaviorally observable processing skills" (p. 45). A list of 87 descriptors (competency statements) was sent to an advisory group consisting of four professionals with knowledge of processing adventure-based activities. They reviewed the list of descriptors and reduced them to 69. A survey questionnaire containing the 69 descriptors in eight categories (preparation, fostering a caring environment, communication skills, questioning skills, feedback, communication strategies, general skills, and sequencing) was distributed to 44 administrators (30 returned) of various adventure programs who rated each competency statement using a five point scale (1 = no value, 5 = vital). Of the 69 competency statements, 49 had a mean score of 4.0 or greater (very important and vital) and ranged across the eight categories. The authors noted that descriptors associated with the use of metaphors and hierarchical models of sequencing received a mean rating lower than 4.0. Brackeieg et al. speculated that one reason the use of metaphors was rated lower than other processing techniques was because administrators may not have been familiar with the adventure programming literature associated with the use of metaphors. However, it may also be that while administrators may be aware of these competencies, the extended time required to plan and implement them effectively is considered problematic when

compared with other less complex processing techniques.

Priest (1995) used a three-step research process to develop a curriculum framework for training challenge course leaders. First, top trainers of challenge courses in North America ( $n = 100$ ) were identified through professional organization mailing lists and snowball sampling. Second, participants were asked to submit their initial ideas about competencies required for challenge course leaders. Their feedback was drafted into a framework of eight competency areas: four technical skills (e.g., challenge course operation, safety/environmental) and four facilitation skills. Third, the draft framework (composed of specific competencies in each area) was circulated to 100 participants, to gain consensus on the competencies. Two rounds of surveys with 77 participants resulted in consensus. Facilitation skill competencies were identified for *recreational* programs (instruct, monitor, mediate, observe, and determine client readiness), *educational* programs (debriefing, frontloading, assist clients to set personal goals and define their own level of success, generate group and individuals' awareness), *developmental* programs (isomorphic framing, metaphorical transfer, help clients commit to change by action planning, and follow-up), and *therapeutic* programs (frontloading, safeguard client emotions, and intervene against dysfunctional actions or negative behaviors). While identification of competencies is an important step in development of curriculum and training, the aforementioned competencies for processing are still assumed to be best practices based on suggestions made by leaders and not derived from efficacy-based research.

To examine characteristics of adventure programs valued by adolescents in treatment, Witman (1993) used a modified Delphi process involving two rounds of questionnaires to reach agreement regarding valued characteristics of adventure programs with two different groups (experts in adventure programming and participants in adventure programs from adolescent psychiatric treatment programs). First,

experts were identified from a mailing list from a conference on outdoor education and snowball sampling ( $n = 26$ ). Experts were asked to identify 4–10 program characteristics that, in their experience, had been most valuable for participants. Their responses were refined through two rounds of ratings. Sixteen items were agreed to by most experts and were subsequently presented to participants. Following two pilot studies with adolescents ( $n = 12$ ;  $n = 21$ ), participants in 12 different impatient psychiatric adolescent treatment programs ( $n = 207$ ; 54% males, 46% females) were asked to complete a rank-ordering (based on 16 characteristics experts identified). Participants' and experts' ranking of the 16 characteristics were also compared through rank-order correlations. Characteristics of adventure programs most valued by participants ranged from helping/assisting others (ranked #1; rated "valuable" by 92.8% of participants) to being a leader (ranked #16; rated valuable by 60.4% of participants). Interestingly, the experts ranked "being playful/having fun" as their most valued program characteristic, while program participants ranked that #8. Witman reported that these findings suggested that "participants value 'process' over 'content'" (p. 48). Characteristics that involved physical skill development (e.g., doing ropes course activities) were less valued than items related to program process (e.g., getting support of other participants). These findings emphasized to Witman the need for program leaders to become skilled communicators and facilitators and not merely activity leaders.

**Summary.** Based on research examining leadership effectiveness and competencies two conclusions can be made about leaders who use different forms of processing in their programs. First, even in programs designed primarily to teach outdoor activity skills, processing is considered an essential element of effective leadership (Phipps & Claxton, 1997). Of the eight constructs Phipps and Claxton identified, six can be considered soft skills, that is competencies associated with effective communication and processing skills. In a

similar fashion, of eight competency areas required for challenge course leaders, four emphasized facilitation skills such as debriefing, frontloading, and use of metaphors (Priest, 1995).

Second, effective processing incorporates a complex set of skills and knowledge that involves assessing the needs and abilities of participants, fostering a caring environment, using effective communication and questioning skills, providing feedback, and sequencing the processing to maximize learning and transfer (Brackemeg et al., 1994). Because of the complexity of competencies required to process effectively, these skills are difficult to learn. As indicated by Phipps and Claxton (1997), even student leaders who demonstrated high level of skills in technical areas were rated weakest in their processing skills.

Taken together, these studies demonstrate the need for more thorough education and training if processing techniques are to be used effectively in programs or interventions associated with TR service delivery. It seems that assisting people to make changes in their lives involves being more than activity leaders; in many cases it requires them to assist people in making sense of the activities in which they participate.

### Efficacy of Processing in Adventure Programming

There is a small but prolific group of writers who argue that processing is the most important aspect of adventure programs (Gass, 1993; Luckner & Nadler, 1995, 1997). Although techniques for processing have been described, guidelines for processing experiences outlined, and connections made to theories, to date there has been little research to substantiate the efficacy of these procedures. This section will review and critique the few studies that examined effects of processing in adventure programming.

Chakravorty, Trunell, and Ellis (1995) examined effects of participation in a ropes course activity and post-activity processing on

transient depressed mood of adults diagnosed with major depression who were hospitalized ( $n = 25$ ; 56% females;  $M$  age 34.28). The adult volunteers participated in a ropes course initiative session (low and high initiatives ropes courses followed with debriefing by leaders using an open question/discussion format). Depression checklists were administered immediately before participation, after participation, and after post-activity processing. Although transient depressed mood decreased significantly ( $p < .001$ ) immediately after ropes course participation, scores remained the same following post-activity processing.

While these results appear to counter the argument that processing makes the difference in adventure programming, they do suggest that there is an interconnected relationship between activity participation itself and processing that may be difficult to pull apart for research purposes. More research is required to determine the separate and reciprocal effects that processing may have on people who are provided ropes course and post-activity debriefing as part of their treatment program.

Using a critical incident technique to evaluate the design and implementation of an Experiential Challenge Program (ECP) in a psychiatric setting, Roland, Summers, Friedman, Barton, and McCarthy (1987) studied the efficacy of the ECP within an acute in-patient psychiatric unit and an alcohol rehabilitation unit. Participation in the ECP occurred as part of the individuals' overall therapeutic program. The ECP involved participation in an Accessible Challenge Course followed by debriefing (3 × wk, 1 hr sessions). The ECP was designed to follow a sequential approach to learning (goal-setting, awareness, trust, group problem-solving, and individual problem-solving) with an emphasis on debriefing at all five levels. One-third of group time was spent doing an activity and the remaining two-thirds was spent debriefing reactions, thoughts, and feelings. A critical incident technique was used to evaluate ECP participants' and a comparison group's perceptions of experiences they felt were instrumental in their overall

recovery. Results indicated that participants in the ECP noted that it "helped them in building trust, helped them in confront their own feelings and helped them to open up to their families and friends" (Roland et al., p. 61). Conversely the comparison group identified nurses and doctors as being most helpful. Although these results support the notion that the debriefing component of the ECP assisted participants with communication or feelings, further research is required to more systematically measure effects of debriefing versus the challenge course on participants' perceptions.

Using a pre- and post-design, Priest and Gass (1997b) examined differences between *problem-focused* facilitation styles (intended to reduce the problem, examine what clients are doing better, and eliminate negative client weaknesses) and *solution-focused* facilitation styles (intended to enhance the solution to problems, identify what clients are doing right or well, and accentuate positive client strengths) used with two corporate groups. One group ( $n = 69$ ) was considered *dysfunctional* in its ability to work together whereas the other was considered *functional* ( $n = 60$ ). Each group was divided into two sub-groups: one facilitated with a problem-focused approach and the other with a solution-focused approach. Participants were administered the Team Development Indicator (TDI-1) one-month before and two months after a two-day training program. All four groups gained in teamwork. The greatest change ( $p < .0001$ ) was found with the dysfunctional group using the solution-focused approach while the dysfunctional group using problem-focused facilitation experienced non-significant change. Priest and Gass suggested that differences in efficacy of approaches within the dysfunctional groups might be attributed to how each dealt with change. Although this study supports use of a solution-focused approach to processing with groups who are dysfunctional in their ability to work together (e.g., problem-solve) as a team, caution is advised in making inferences about individual change. This inter-

vention was directed at facilitating changes in the ways teams function together; more research is needed to determine if solution-focused approaches to processing are also effective with individuals who are dysfunctional in managing or solving individual problems and whether these approaches are effective with other groups and individuals.

Using a post-test design, Priest (1996) examined effects of two different forms of debriefing on self-confidence after a three day ropes course. Adults ( $n = 72$ ) were randomly assigned to six groups: two groups served as controls, two received specific debriefing (discussion targeted solely on self-confidence), and two groups received general debriefing (discussion of any issue arising from the ropes course experience). A comparison of results from the Interpersonal Trust Inventory (ITI; measuring self-confidence with five subscales: acceptance, believability, confidentiality, dependability, and encouragement) indicated that, while the ropes course was effective at improving self-confidence overall, differences between the general and specific debriefing on three of five subscales were minimal. On two subscales—believability and confidentiality—scores for the group receiving specific debriefing were higher ( $p < .05$ ) than those for the group receiving general debriefing. The author concluded that, while general and specific debriefing contributed to improving the self-confidence of participants, a specific approach to debriefing might have more effect in developing some areas of confidence (believability and confidentiality). While interpretation of these findings is limited because the validity and reliability of responses to the ITI have not been examined, attention to the kinds of questions asked (e.g., general versus specific) in association with activity experiences is nonetheless warranted. Further research is required to study effects of different approaches to debriefing on desired outcomes. Doherty (1995) studied three models of processing (teaching styles): *Mountains Speak for Themselves* (MST) in which participants interpreted experiences themselves, *Outward*

*Bound Plus* (OBP) which included facilitated discussion after experience, and the *Metaphoric Model* (MM) in which facilitators framed the activity to connect it to participants during the experience. The purpose of the study was to determine the degree to which the three teaching styles variously influenced learning during a one day ropes program for university students ( $n = 84$ ) divided into seven groups of 12. One group served as the control and the other six groups were instructed using one of the three teaching styles (two groups each for MST, OBP, and MM). Each group received the same type and sequence of ropes course activities. Leaders were provided with scripts for each of the three styles. Participants completed the Group Environment Scale (GES; with ten subscales: cohesion, leader support, expressiveness, anger and aggression, order and organization, leader control, task orientation, independence, innovation, and self-discovery) pre-intervention, post-intervention, and 30 days later. While each method of facilitation produced increases in scores ( $p < .016$ ) between pre- and post-tests on 7 of 10 subscales, the MM scored higher than the OBP and MST groups on 8 of 10 subscales between pre- and post-tests. Differences in the three approaches were most evident in follow-up testing. While OBP and MST groups experienced significant ( $p = .0098$ ) losses of what they had gained, the MM group showed some loss of learning between acquisition and retention tests, but the decline was not statistically significant. It appears that the MM can produce greater and more lasting results than the MST or the OBP. While this study is an important first step, more empirical research is required with different populations to determine if and how facilitation styles affect learning and what aspects of the processing foster long-term benefits.

**Summary.** From the literature reviewed that has examined different forms of processing two key points can be made. First, because of the complex relationship between the activity experience and the processing of this experience, it is difficult to determine the efficacy

of processing (Chakravorty et al., 1995; Roland et al., 1987). More sophisticated methods for researching experience (e.g., experience sampling methods, single-subject research designs) may provide better means to discriminate the factors leading to changes in perceptions and behavior over time. Nonetheless, several researchers were able to discern significant differences between different processing approaches associated with adventure-based programs.

From the research reviewed we can infer that a solution-focused (versus problem-focused) approach to processing has the potential to produce the greatest amount of change in groups or teams (Priest & Gass, 1997b). In a similar fashion, a specific (versus general) approach to debriefing (Priest, 1996) and a metaphoric model of processing (Doherty, 1995) have the potential to produce greater and more long-lasting change under some circumstances. However, as indicated previously, generalizing these results to all aspects of behavior or perceptual change, to non-adventure-based programs, or to other population groups requires caution. Nonetheless, it seems that processing in conjunction with some form of activity participation can make a difference in improving the transfer of learning from activity-based participation in a therapeutic program to key aspects of individuals' lives. How, if at all, this process can translate to TR programs and interventions that draw on other activity modalities remains to be explored.

### Possibilities for TR Practice and Research

Recent efforts have been made in the field of TR to identify and better train practitioners to more effectively use various facilitation techniques in TR (Austin, 1997; Dattilo, 2000). For example, Dattilo recently edited a book in which various facilitation techniques used in TR settings—from adventure therapy, to stress management and the therapeutic use of 'at chi and animals—are presented. We suggest that processing is a facilitation tech-

nique that can improve the effectiveness or outcomes of any TR program or intervention. For example, processing techniques such as frontloading and debriefing could be incorporated into community reintegration programs in rehabilitation settings. Discussions ahead of an outing could assist participants to anticipate difficulties they might encounter while in the community, and debriefing afterwards would assist them to reflect on what they learned from the outing. Debriefing and giving feedback may be useful in long-term care settings where continuity between activity sessions is sought (e.g., to facilitate a resident's recall between participation in a crafts program). As indicated, processing techniques have been used effectively in TR programs in psychiatric settings (Chakravorty et al., 1995; Roland et al., 1987). Further research is required to explore procedures for incorporating processing techniques in a variety of TR contexts.

Within the field of TR the value of processing has not gone unnoticed. For Austin (1997), processing is "... a critical part of the clients' total experience. Learning from experiences during therapeutic recreation programs can be enhanced by processing the activities following participation..." (p. 89). The research reported by Chakravorty et al. (1995) and Roland et al. (1987) involved TR specialists working in conjunction with other members of an interdisciplinary team. Further efforts are required to examine effects of processing within a TR context.

Luckner and Nadler (1995) published a paper in the *Therapeutic Recreation Journal* providing a theoretical overview for incorporating processing in adventure-based programs. The theoretical constructs Luckner and Nadler identified—narrative and social constructivism—have garnered considerable support in psychology and family therapy (e.g., Freedman & Combs, 1996; Parry & Doman, 1994; White & Epston, 1990) and provide a foundation upon which to explore the theoretical bases for applying processing to other aspects of clinical practice in TR. A strong theoretical foundation to training and research

associated with processing should contribute to the evolution of practice that meets participants' needs, and to the continuing evolution of practice models that guide TR service delivery.

How can TR practitioners incorporate processing into their existing practice? From the literature reviewed it is clear that processing requires *planning*. For example, developing specific probing questions that are intended to help clients see the link between a particular activity and their everyday lives (Luckner & Nadler, 1997). Some TR practitioners may already incorporate debriefing and other forms of processing as a natural part of their work with people. Processing can be incorporated within *all* forms of programs or interventions and within *any* component of the TR service delivery continuum (from treatment, to leisure education, to facilitation of participatory opportunities). Based on this literature review there seems to be support for TR practitioners to consider employing processing strategies in conjunction with individual and group programs and interventions they offer.

Processing can help individuals better understand the significance of treatment-oriented interventions for their overall therapy goals. For example, when conducting leisure education programs (see Dattilo, 1999) a few brief questions asked before, during, and after an enjoyable recreational activity can help participants reflect on and remember what their participation meant to them. Appropriately-focused and timed processing will assist individuals to take what they are thinking, feeling, experiencing, and learning within a program, and apply it to their lives outside the TR service. Without this ongoing link between therapeutic processes and an individual's life outside the TR setting there is the danger, as Roland et al. (1987) indicated, for programs to become merely diversional. A systematic approach to processing in association with TR activities would enhance the transfer of learning from the therapeutic process, and would assist TR practitioners to strengthen the efficacy of their interventions.

A first step for practitioners interested in incorporating processing into their work is to receive some training related to processing. As indicated previously, several books exist that outline practical steps to developing and implementing processing in adventure-based settings. However, participation in workshops, training institutes, or clinical research may be helpful to TR specialists. Learning the theory and skills associated with processing, practicing these skills, and reflecting on this practice (whether alone or with co-workers) may promote the evolution of careful, planned, and systematic application of processing approaches to TR service delivery.

### Conclusion

Processing is a facilitation approach used in therapeutic settings, primarily adventure-based programming, to facilitate learning, awareness, and change. Techniques, such as debriefing and the use of metaphors, can be used in TR settings to assist individuals to transfer what they are learning in the therapeutic process and apply it to their everyday lives. The purpose of this paper was to review current research in adventure-based programming to explore if and how processing could be a facilitation approach used by TR specialists. A review of terms, techniques, and research developments related to processing provides the foundation upon which future efforts to study and implement processing techniques within TR can occur. Processing has the potential to be an important, overarching facilitation approach that has relevance for and application across all aspects of TR service contexts.

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## Aquatic Therapy In Community-Based Therapeutic Recreation: Pain Management In a Case of Fibromyalgia

Kenneth E. Mobily and Marie D. Verburg

The purpose of this case report was to describe the effects of an aquatic exercise program with an individual with fibromyalgia. A 59 year old female school teacher with fibromyalgia participated in an aquatic therapy program for a period of four and one-half months in a community-based therapeutic recreation setting. Shortly after participation was initiated, she reported relief from acute pain. Later, improvement in the degree to which pain interfered with functional activities was noted. In particular, she reported returning to work on a half-time basis and regained the stamina to participate in her favorite recreation and social activities. Findings from this case are consistent with those obtained from larger clinical trials using exercise interventions with persons diagnosed with fibromyalgia. Implications for community-based therapeutic recreation are discussed.

**KEY WORDS:** Aquatic Therapy, Community-Based Therapeutic Recreation, Fibromyalgia, Pain Disability Index (PDI), Self-Efficacy, Sleep Deprivation, Visual Analog Scale (VAS)

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