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Risk, resilience, and natural recovery: a model of recovery from alcohol abuse for Alaska Natives

Gerald V. Mohatt[1], Stacy M. Rasmus[1], Lisa Thomas[2], James Allen[1], Kelly Hazel[3] & G. Alan Marlatt[2]

University of Alaska Fairbanks, USA,[1] University of Washington, USA[2] and Metropolitan State University, USA[3]

ABSTRACT

Aim The People Awakening (PA) study explored an Alaska Native (AN) understanding of the recovery process from alcohol abuse and consequent sobriety. **Design** PA utilized a cross-sectional, qualitative research design and community-based participatory research methods. **Setting and participants** The study included a state-wide convenience sample of 57 participants representing all five major AN groups: Aleut/Alutiiq, Athabascan, Inupiaq, Yup'ik/Cup'ik and Tlingit/Haida/Tsimshian. Participants were nominated and self-identified as being alcohol-abstinent at least five years following a period of problem drinking. **Measurements** Open-ended and semistructured interviews gathered extensive personal life histories. A team of university and community co-researchers analyzed narratives using grounded theory and consensual data analysis techniques. **Findings** A heuristic model of AN recovery derived from our participants' experiences describes recovery as a development process understood through five interrelated sequences: (i) the person entered into a reflective process of continually thinking over the consequences of his/her alcohol abuse; (ii) that led to periods of experimenting with sobriety, typically, but not always, followed by repeated cycling through return to drinking, thinking it over, and experimenting with sobriety; culminating in (iii) a turning point, marked by the final decision to become sober. Subsequently, participants engaged in (iv) Stage 1 sobriety, active coping with craving and urges to drink followed for some participants, but not all, by (v) Stage 2 sobriety, moving beyond coping to what one participant characterized as 'living life as it was meant to be lived. **Conclusions** The PA heuristic model points to important cultural elements in AN conceptualizations of recovery.

Keywords Alaska Natives, alcohol abuse, mindfulness, natural recovery, stages of change.

Correspondence to: Gerald V. Mohatt, University of Alaska Fairbanks, Department of Psychology, PO Box 756480, Fairbanks, AK 99775-6480, USA.
E-mail: ffgvm@uaf.edu
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> But it helped me really define and find out who I am as a person because I can't turn to drinking.
> Some people like me; I fell through the ice. I sobered up under the ice.

People Awakening (PA) was a collaborative research project joining members of the Alaska Native (AN) community with Native and non-Native university researchers. Its main objective was exploration and description of an AN understanding of sobriety [1–3]. The goal was to generate a heuristic model suggesting testable hypotheses for later population-based studies. We also hoped to inform prevention and treatment efforts by identifying cultural variables in AN recovery. This report focuses on a qualitative research process that identified factors that facilitated the recovery process for AN people.

PA recognizes the potential for multiple pathways to sobriety, and concerns itself with maintenance of recovery as well as the change process itself [4,5]. Three relevant contemporary models include (i) Transtheoretical (TTM) or Stages of Change [6]; (ii) natural recovery [4,5,7,8]; and (iii) mindfulness [9–12]. TTM has been tested with treatment populations and self-remitters [6,13]. The model identifies prominent change processes motivating people to move from one stage in recovery to the next [6], including consciousness-raising, self-liberation and re-evaluation. Although research on natural recovery is limited, it appears that many people recover from alcohol abuse absent themselves from formal treatment [5]. One review noted that various methodological flaws in existing studies on natural recovery, but concluded that research established it

clearly as an important recovery pathway for some [4]. Spiritual approaches to recovery are associated typically with Alcoholics Anonymous (AA). However, there is evidence that other spiritually based interventions, including mindfulness meditation, are associated with reduced alcohol use [14]. Mindfulness is the ability to focus awareness on the present moment, with full participation in this experience through an attitude of non-judgemental acceptance. It is also understood as a form of attentional control [15] through which the person meditating develops a metacognitive state of detached awareness. The goal of mindfulness meditation is not, as in cognitive therapy, to change the content of thought, but to develop a different attitude to thoughts and feelings, including urges and cravings to use drugs.

Recovery among American Indians and Alaska Natives

Research on American Indian and Alaska Native (AIAN) recovery is limited [16,17]. The overwhelming focus of existing research is on health disparities associated with alcohol abuse, patterns of drinking and etiology (e.g. [18–24]). Moreover, existing work is generally survey-based and conducted at urban treatment centers [20,25–27]. AIAN experiences with recovery and remittance have been ignored or overlooked by existing research. Two recent studies now suggest that the prevalence of abstaining and remitted Native American adults may actually be higher than for the non-Native population [28,29]. In response to this concern, an emerging body of research is beginning to make a significant contribution through the study of recovery processes among AIAN individuals who have remitted. These studies utilize culturally appropriate research methodologies to identify recovery factors among AIAN people through rich, descriptive and discovery-oriented qualitative methods (for example) [17,30,31].

Our work with PA is situated within this culturally appropriate qualitative approach, emphasizing cultural perspectives in recovery. We seek to inform the addictions field regarding cultural factors in the recovery process for AN people, and to provide a heuristic model of the recovery processes to guide future epidemiological and solution-focused research [32].

METHODS

Setting

The AN population comprises 18% of the total Alaska population [33]. AN people are extremely diverse in cultural background and geographical setting, comprising 229 distinct federally recognized tribes [34]. At least 20 tribal languages with multiple dialects are spoken [35]. Although many AN live in the state's six major urban centers, more than half live in 229 remote villages, often accessible only by air or water, with populations from 10 to 5000.

Sample

Given these challenges of cultural and geographical diversity, PA utilized a purposive sampling procedure stratified by cultural group, age, sobriety status and gender. Selection criteria for research participants were established by the PA Coordinating Council (PACC), a state-wide group consisting of AN community leaders, individuals involved with grassroots AN sobriety movement efforts and substance abuse service providers who functioned as co-researchers in the study's participatory research methodology. Research participants from each of the five major AN cultural groups (Aleut/Alutiiq, Athabascan, Inupiaq, Tlingit/Haida/Tsimshian and Yup'ik/Cup'ik) were stratified by age. Given the enormous tribal diversity, the PACC selected three age categories as markers of important developmental milestones from their cultural perspective: ages 21–35 represented young adults, 36–59 were adults and 60 or greater were Elders. Further, the PACC defined sobriety as 5 or more years of alcohol-abstinence for people with a past history of problem drinking [it should be noted that the study reported here was part of a larger study that also focused upon implications for prevention and thus included people who had never drank alcohol or were non-problem drinkers]. Similar numbers of men and women were interviewed.

PA utilized nomination and snowball procedures to identify potential participants. Radio shows, advertisements and newspaper articles also solicited volunteers. Participants self-identified their sobriety, and sobriety status was verified empirically through scores on a lifetime version of the Drinkers Inventory of Consequences for AN (DrInC-AN), a culturally adapted version of the Drinkers Inventory of Consequences [1]. Scores of less than 18 on this 50-item measure were considered indicative of non-problem drinking status, while higher scores were considered suggestive of problem drinking. A more detailed presentation of the PA methodology, including recruitment, procedures and analytical approach, appears elsewhere [2,3,36].

The sample on which this paper is based includes 57 self-identified, 5 or more years alcohol-abstinent participants (31 women and 26 men), as verified through DrInC-AN scores. Mean age was 50 [standard deviation (SD = 9.17], and ranged from 26 to 72. Mean years of sobriety were 14.1 (SD = 6.28). Tribal affiliation was 25% Yupik/Cup'ik, 21% Inupiaq, 19% Aleut/Alutiiq, 20% Tlingit/Haida/Tsimshian and 16% Athabascan. Approxi-

mately 42% reported their tribal language as their first language. Educationally, 75% had a high school diploma or Graduate Equivalent Diploma (GED) and 69% had attended at least some college. About 61% were currently married. While 16% had incomes lower than $20 000 annually, 52% had incomes between $20–49 000 and 25% had incomes greater than $65 000. Nineteen (33%) reported utilizing AA in their recovery, 17 (29%) a combination of AA and formal treatment programs and 21 (38%) reported natural recovery.

Procedures

Nominees were contacted initially by telephone. The purpose and structure of the interviews was described, and their participation invited. Interviewers were trained in the interview protocol, including protection of human participant procedures. The University of Alaska Fairbanks Institutional Review Board (IRB), local and regional Indian Health Service IRBs and each regional Alaska Native Health Corporation approved this research. Procedures followed all requirements for active informed consent and data confidentiality, and included acquisition of a certificate of confidentiality from the US Department of Health and Human Services.

An open-ended, semistructured life-history protocol elicited relevant developmental, cultural and relational information across the participant's life-span. The protocol focused additionally on elements the person considered most important in his/her process of recovery and maintenance of sobriety. Probes and follow-up questions addressed specifically the role of culture, spirituality, role models, parenting and methods of coping. Following the interview, each participant received a list of local mental health and substance abuse resources in case the interview resulted in discomfort or need for assistance. Interviewers tried to contact each participant 2–3 days later to ensure that the person was experiencing no harmful consequences related to the study.

Analysis

Our analytical approach combined elements of grounded theory analysis [37] with more recent methodological advances in team-based coding and analysis [38] and consensual qualitative data analysis [39]. The process began with memoing, summarizing key themes in each transcript. A set of overarching themes or domains was identified and systematized in an initial coding manual. Grounded theory open coding identified recurring themes and subthemes. Codes were then operationalized through coding definitions and coding decision rules in an iterative process involving multiple coding manual revisions. Cultural auditing comprised a key element of the participatory methodology. In auditing, PACC co-researchers read and coded transcripts, and this work led to further refinement of the coding manual and data interpretation.

This process ultimately resulted in 220 coding categories organized under 25 hierarchical domains. Next, the research team trained coders to recode all transcripts using the final draft of the codebook. Coding was assisted through use of AnSWR, a qualitative data software program [38]. Inter-coder reliability kappas for this coding ranged from 0.60 to 0.81 for all 220 lower level categories, and the 25 hierarchical categories were at 0.90 or above.

Several methods of verification were used to enhance the accuracy and cultural credibility of findings: (i) prolonged participant engagement resulting in rich, culturally grounded narratives; (ii) memoing of the narratives prior to coding; (iii) review by each study participant of their transcript and the memoing of their transcript for accuracy; (iv) team-based data coding with ongoing reliability checks and iterative refinement of the coding system; (v) triangulation across data sources and different co-researcher perspectives; (vi) examination of events and perceptions that did not fit emerging themes through negative case analysis; (vii) cultural auditing by co-researchers who provided coding and interpretive examples and critiqued the research team work; and (viii) a consensual team analytical process.

RESULTS

Participants

Sequences of AN recovery

The narratives described a clear sequence of recovery for AN people involving three interrelated experiences: (i) thinking it over; (ii) experimenting with sobriety; and (iii) a turning point; followed by two sobriety stages: (i) active coping; and (ii) life as it is meant to be lived. We describe and illustrate this process using verbatim excerpts from the life histories, presented here with the active consent of the participants.

Thinking it over. One participant described his experience in recovery as:

> I thought about it for say, 3, 4 years before I quit drinking. I mean, I thought about it for 3, 4 years, maybe a little longer than that. I realized what it was doing to my life, you know. And I didn't like the hangovers and the saying I'm sorry, and I will never do it again (male, 50 years old, post-secondary educational experience, employed, over 10 years sobriety).

Another participant remembered 'going through a period of real deep reflection'. Participants typically

described reflecting on the physical and interpersonal consequences of drinking. However, even when participants feared death or faced alcohol-related chronic illness, reflection on alcohol's consequences to family was emphasized.

Experimenting with sobriety. This sequence typically involved repeated attempts to stop drinking. Participants viewed this process differently than relapse from a series of unsuccessful attempts to quit. Instead, the sequence provided an experience in what life could be like without alcohol abuse. Occasionally, a first experiment with sobriety led to immediate and final cessation of drinking. More typically, multiple sequential periods of abstinence, or experiments with sobriety, followed by a return to abusive drinking, preceded quitting drinking. We bracket as a component within this sequence returning to drinking. Participants generally did not describe these multiple experiments with sobriety as failures. Instead of indefinite sobriety, this sequence is characterized better as ambivalent sobriety. One participant described:

> I was starting to wonder if I should do that too. I should just quit for a while. And in fact I would quit, but then I would start again doing something and then in late'89 I started saying, well question, internal questioning (male, 62 years old, high school graduate, business owner, over 15 years abstinence).

This seems a purposive approach; there is no explicit intention of quitting forever, but at the same time no explicit plans to resume drinking. Instead, this person is engaged in a personal dialogue on what his goals might be and what he is capable of accomplishing.

Participants demonstrated reflexivity, continually thinking about experience, assessing it and dialoguing within themselves. One participant described key experiences as 'eye-openers':

> That was one of the eye-openers that started me to think about my drinking. Another time was, I was leaving here, and like I said, you know, I have got a good family, good kids, and good wife: what the hell are you doing; you got a case of beer and you got a bag of weed and you're running away from your family. You know, there is something wrong here (male, 47 years old, some high school, employed, over 6 years sobriety).

This stage of experimenting with sobriety is perhaps the critical stage in recovery because it implants within the person what one participant called a 'seed':

> He got that little seed in him that he want to quit. And sometimes these people will keep on going. They will fall off the wagon and then they started drinking for a long time. And then finally they stop again (male, 47 years old, some high school, employed, over 6 years sobriety).

Turning point. At a certain point in the process of experimenting with sobriety, participants made a final decision to stop drinking. It was typically precipitated by a key event, often in the form of loss or near death experience, or the birth of a child or grandchild:

> And you go through a very narrow road, like you will be at the end of your string, like you go through; you get close to death too. Sometimes people like me, I fell through the ice. I sobered up under the ice. I mean I didn't know that I was on the ice. Like when we sober up, we're clear? . . . I was under the ice. So things like that, you go through life, that kind of make you think (male, 47 years old, some high school, employed, over 6 years sobriety).

The loss of a loved one might also precipitate this turning point:

> I was about 40 when I quit drinking, after I lost my son-in-law through suicide . . . It's like he's trying to warn me, you know, and stuff like that. But after he committed suicide, that's when I really thought; my grandkids need me to be sober to watch them (female, 59 years old, elementary school, homemaker, over 10 years sobriety).

For others, the turning point was described in terms of intense pain coupled with a liberating or spiritually transforming choice. Some recall the pain as excruciating and the relief from it as liberating, vividly remembering the moment that they made their decision.

> I was lying on the bed and all of a sudden my soul came out and I got so terrified I jumped up and caught my soul and went back down. I didn't want to die. But that was an awakening (male, 62 years old, high school graduate, business owner, over 15 years abstinence).

> To me, the spirituality for me began the day that I started saying no. I believe, that I quit; I quit allowing this, the life to go on in any direction. That I was actually starting to regain control. And to me, that's what spirituality is (male, 53, some college, employed, over 10 years abstinence).

Spirituality appeared to mean many different things to our participants. It could include a dramatic and radical transformative spiritual experience, prayer and prayerfulness, going out onto the land, surrendering to a higher power, or listening to and respecting the ancestors and spirits. All these experiences were reported as empower-

ing and transformative. Those who described intense spiritual experiences also stated that they often no longer felt alone and helpless; they felt in control of themselves and the craving for alcohol often ceased or lessened:

> One morning I remember I woke up and the need, the craving, whatever you want to call it, was gone. And I told my wife; and she said, yeah, right, till the dealer comes back to town . . . it was a 10-year pledge, and I broke it after 3 years. But that was the beginning of the end of my drinking and drugging (male, 53, some college, employed, over 10 years sobriety).

During the turning point, individuals generally made the transition to a position where they would no longer turn away from sobriety. With this, they entered a new transition in the recovery process that we term Stage I sobriety.

Stage I sobriety: active coping. All participants who recovered successfully described a period of active coping, with urges to use alcohol immediately following the turning point. They reported making extensive use of several coping strategies. These included avoidance of alcohol, the places it was present and the friends who used it. Heavy reliance on activities incompatible with drinking was also described. This included church involvement, family and community service, prayer, physical activity and staying busy. In addition, the motivations participants reported for continuing with their sobriety were similar, whether they used a formal treatment program or recovered without treatment. These included a desire to serve one's family and community by actively helping others, to serve as a role model by embracing community and kinship responsibilities and to maintain an active sobriety partnership.

Sobriety partnerships were an important theme in many of the life histories, both for participants who had used treatment or engaged in natural recovery. Sobriety partnerships are special relationships into which the recovering person enters with the express purpose of maintaining of a sober life-style. Our participants engaged in these relationships most often with spouses, but occasionally reported doing so with their adult children, AA sponsors or with God. In addition, support and love from family during Stage I sobriety was often cited as central to a person's achievement of long-term sobriety. As one participant described:

> And I sobered up on my own; I did a lot of self-healing. I went to the clinic and I got me the 12 Steps from the clinic and I sat down and I watched that on the TV. And then I went and found a sponsor, I went and found my own sponsor, and I went to AA meetings. And I still do that today. I don't go to many, go to too many Al-Anon meetings but I like to hold them once in a while you know with other people, share my story (female, 47 years old, some college, employed, over 7 years sobriety).

In this active coping stage, many individuals often confronted their experiences with trauma. Participants frequently identified healing from traumatic experience as one of the central features of Stage I sobriety. Although most described healing through finding meaning in their current lives, this process included culture-specific elements. Healing often included discovery of what participants described variously as an identity, a role or a 'voice', that was at the same time theirs and also firmly grounded in their AN culture. Along with this was the experience of new relationships with significant others that did not repeat the past in terms of recurring and repetitive traumatic experience. This process was quite transformative:

> Because I had come to, in my recovery—I continually came to realization after realization after realization about the why of things. And I realized that I felt like I was at home. And back at my grandpa's house and hearing the language. And then I understood that the reason that I am confused about society is that I'm full-blooded Tlingit. I think in Tlingit and it's okay (female, 52, college graduate, employed, over 10 years sobriety).

During Stage I sobriety, participants reported cultural identification, church, prayer and interventions from family contributing to the long-term maintenance of sobriety. A personal relationship with God was reported by the majority of our participants, whether they utilized natural recovery or treatment programs, although individuals in natural recovery were much more likely to cite church attendance as important to the maintenance of their sobriety. Self-remitters in our project who did not access these constructed religious communities seemed instead to access other existing communities organized around similar principles of right living. Conceived in different terms, our data suggest the importance of the construction of some type of therapeutic community as part of sobriety maintenance.

Stage II sobriety: life as it is meant to be lived. All our participants identified a period of active coping. For many, recovery did not end there. Some clearly described a stage of transition in their lives beyond active coping with urges to drink, reflecting both a sense of closure or completion to the recovery process and of moving into a deeper experience with living. We call this final stage for many, but not all of our participants, Stage II sobriety. In the words of one of our participants, it is 'life as it is meant to be lived'.

For these participants, admitting vulnerability and facing it humbly were important components: 'But there's never a day where I forget where I came from. I have to remember each morning where I've been, and what I've done and ask for strength early in the morning'. However, this final sequence allows the individual to live without craving alcohol:

> In the beginning it's important to celebrate anniversaries of sobriety, but there comes a time when it just becomes part of life and everyday is a celebration. I didn't need AA to become sober and I still don't need it to stay sober because I'm delivered, set free. I don't desire alcohol. I'd rather die than drink again. It doesn't affect me at all (female, 47 years old, associate degree, unemployed, over 10 years sobriety).

Of the 57 participants, 25 (44%) described their current experience in ways our team coded as attaining Stage II sobriety. Participants, on reaching this stage, reported no longer considering drinking as a possibility or even a desire, and no longer worrying about relapse. In contrast to viewing themselves as 'in recovery', they reported full recovery from alcohol abuse. 'Life as it is meant to be lived' involved active engagement in family and community, and an active commitment to personal growth and development. However, an important distinction emerged, in that this personal development was in the service of one's family and community, and not entirely self-directed towards personal actualization as an end point.

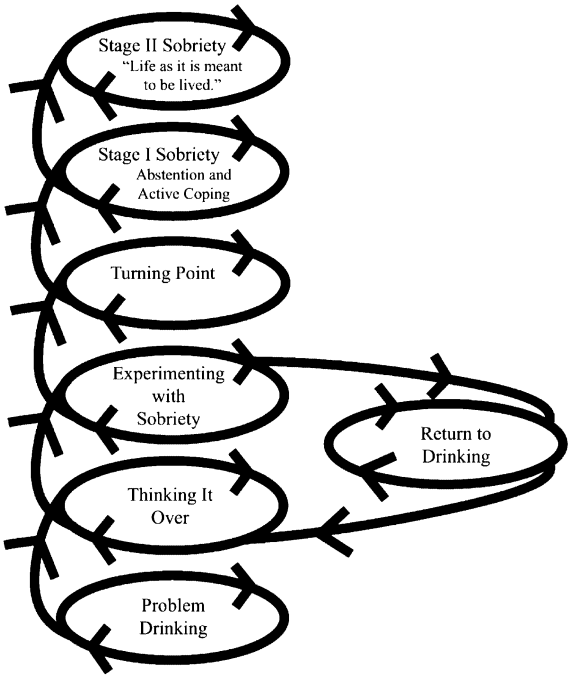

Figure 1 A sequence of change model for recovery in Alaska Natives

DISCUSSION

A heuristic model of the AN recovery process emerged from the life histories of the people who participated in PA. This model is summarized visually in Fig. 1 as a sequence of interrelated, spiral trajectories. Each developmental sequence comprises a single loop, and each loop also functions in discrete, separate ways from the previous sequence. The heuristic model incorporates the most prominent change processes that emerged throughout our participants' life histories. The model illustrates that these change processes motivate movement from one developmental sequence in the recovery pathway to the next.

Process of change models

The PA heuristic model differs in important ways from TTM [6]. TTM is at its core a developmental stage theory, although the issue of whether TTM is a true stage model is itself the subject of current controversy [40]. Many elements in the PA heuristic model emerged in the AN life histories as recursive events, with individuals moving back and forth between these elements in a non-linear fashion. Additionally, not all individuals passed through or attained each element within the model; entry into one element within the model did not necessarily require resolution of a previous stage or conflict. Some individuals passed entirely over one of the sequences in the model, such as those individuals who did not return to drinking after quitting for the first time. Others experienced simultaneously features of more than one sequence. Individual movement was often bidirectional. People repeated sequences, and cases of simultaneous development in more than one sequence were described in the life histories. These events do not fit the definition of a true stage theory, in which each successive stage builds upon and is dependent upon development in previous stages, and the individual moves in a linear progression to more advanced, qualitatively distinct stages. Instead, the AN participant experiences are described more accurately as developmental sequences.

However, one portion of the AN life history experiences appeared to function like stages and not developmental sequences. As part of attaining Stage II sobriety, all participants reported passing through a period of active coping with alcohol (characterized here as Stage I sobriety). In this way, the PA model is a mixed model that is predominately a series of developmental sequences, concluding with sobriety experiences that clearly fit a stage progression model.

Even though the PA heuristic model is not a stage model, it contains elements consistent with TTM [6], suggesting several areas of potential cross-cultural generalizability, in addition to the areas of divergence we have identified as specific to this study population. In TTM, Stage 1 (pre-contemplation) is consistent with the PA heuristic model description of problem alcohol use. Stage 2 (contemplation) is also similar to the PA heuristic model sequence involving thinking it over. Most PA participants engaged in an experimenting with sobriety sequence with important similarities to Stage 3 (preparation). Participants described this sequence as building a 'seed' for sobriety, despite often returning to intermittent alcohol abuse. In the PA heuristic model, experimenting with sobriety typically included episodes of return to drinking combined with a constant thinking it over of the experience, until such time that a series of events triggered a turning point, and the final decision to quit. In this way, the PA heuristic model can be thought of as a more detailed and culture-specific elaboration of the preparation stage in TTM. One generalizable outcome of the PA work may be to advance current critiques and revisions of TTM regarding its nature as a stage model, as well as elaboration of some of its specific elements.

Culture and context in AN recovery from alcohol abuse

Unique elements of the AN cultural context are important considerations in understanding the recovery of our participants. This context requires a heightened awareness of both the physical and social environment in order to be successful as a family member, community member, hunter, caretaker and leader. Although this focus on awareness of community and family bears some similarity to TTM's emphasis on planning and instrumentality, the PA model also bears unique and culture-specific elements. Similar to findings from previous work in AN recovery [41], PA participants described an intense motivation to contribute to community and family, and an emphasis upon relationships rather than a focus on self as important in motivating change. In the PA study, realization of the impact of drinking on family and a desire to embrace kinship responsibilities as a father, mother or grandparent emerged as potent recovery factors.

The PA life histories also provided numerous examples wherein the thinking over process and turning point incorporated psychosocial issues specific to the person. The most common personal psychosocial theme that emerged during this process was recollection of significant trauma. Participants developed an awareness of ways they were repeating this trauma in their lives through their drinking. This awareness provided an important source of motivation to change, fueled by a desire to prevent further and even irrevocable traumatic damage to others as a consequence of their own continued drinking episodes.

Finally, the PA model includes a final stage in recovery, wherein many participants described themselves as fully 'recovered'; that is, no longer craving alcohol, having moved on to a life in which alcohol does not have a significant role or influence. Few studies in the literature have identified the existence of a 'recovered' stage in sobriety (see [41] as important exception). This is an important and potentially controversial finding, in that our participants' descriptions of their life experiences run counter to views of alcoholism as a chronic and incurable disease process. The disease concept of alcoholism, as proposed by Jellinek [42], is accepted widely in the literature. In the disease model a person, once alcoholic, is always in recovery from alcoholism, and one manages the disease of alcoholism in the same way as any other chronic illness. However, the life histories of our participants, particularly in the natural recovery group, suggest an alternative outcome, with notable similarities to recent developments in our understanding of the course of other chronic illnesses with biological components, exemplified by the 'recovery' movement among people with mental illness [43].

Natural recovery from alcohol abuse

Few studies focus on natural recovery from alcohol abuse, without professional treatment or involvement with formal self-help programs such as AA. The current study has important implications for advancing a broader understanding of the natural recovery process beyond the experience of this particular cultural group. Our research builds upon earlier findings [41,44], also suggesting cognitive appraisal as a critical process in natural recovery. The PA life histories do not describe simply 'drifting' into sobriety. Instead, participants became immersed in an intensively reflective process that was iterative, effortful and involved learning from the present and comparing it to the past. Despite this important similarity with other work on natural recovery, we did not find an appraisal process within the PA sample resembling a listing of pros and cons regarding drinking. Instead, the appraisal process focused upon responsibilities to community and family and negative consequences of alcohol abuse on these relationships.

No systematic evaluations of prevalence or outcomes of natural recovery yet exist for AN, although researchers working with other Native American groups argue that natural recovery is the most frequently accessed method of recovery [17,30]. Researchers studying self-change in the general population are also beginning to assert that the number of people attaining self-remittance may be higher than those who use professional help [45–47].

The PA life histories are significant, in that they include descriptions of the experiences of AN people who recovered without formal treatment or self-help programs. This natural recovery experience characterizes the context of rural villages in Alaska and many other indigenous communities, where few formal treatment centers exist, and several cultural and social contingencies pose challenges to instituting formal treatment and AA. The life history stories of the 21 participants who recovered without treatment suggest an alternative paradigm of healing composed of finding and multiplying community healing resources that are renewable and synergistic [48].

An indigenous conceptualization of mindfulness

Mindfulness has been a topic of significant recent interest in contemporary psychology, including addiction treatment. The concept is rooted in western understandings of eastern and, in particular, Buddhist philosophy [11]. *Ellangneq* is a concept indigenous to Yup'ik understandings of the world, which can be translated variously to mean to 'wake up', 'achieve understanding' or 'gain awareness'. However, we noted similar culturally patterned variants of the concept as a recovery factor across all the different AN cultural groups within our sample. The concept permeated several of the life histories and guided the participants' recovery processes. It emerged as a recovery factor rooted in the development of awareness of one's natural environment and one's interdependence within the social world of kinship responsibilities. This interdependence included responsibilities to extended family and to the broader community. Many of our participants viewed this awareness as an essential component to becoming a good caretaker, hunter, provider and human being; understood it as driving their recovery; and viewed it as guiding their behavior and the choices they made.

The Yup'ik concept of *ellangneq* has parallels with mindfulness awareness as understood by western psychology. To be fully mindful in the present moment is to be aware of the full range of experiences that exist in the here and now. Instead of evaluating experiences as good or bad, mindfulness accepts all experience—thoughts, emotions, sensations, events—as simply 'what is' in the present moment [49].

Although the indigenous concept of *ellangneq* bears clear similarities to mindfulness, it also possesses important distinctions. Perhaps in contrast to its original Buddhist inspirations, western psychology emphasizes cognitive aspects of mindfulness, and in particular a focused experience of perception and awareness, without judgement and distraction, within the individual. In contrast, e*llangneq* emphasizes an expanded definition of the self, with heightened sensitivity to relations with the natural world, spiritual power, animal world and people in one's extended kinship structure. In addition to awareness of a fuller range of experience, *ellangneq* also emphasizes awareness of responsibilities and obligations to these relationships that accompany experience. This extension from the individual to the relational is crucial to an understanding of the concept of *ellangneq*, and to cultural understandings of the AN recovery process.

Many researchers have pointed to the importance of spirituality and spiritual growth in maintaining sobriety [41,50–53]. Our participants illustrate a variety of spiritual experiences, ranging from a single life-changing event involving experience of the numinous to a consistent utilization of the church and formal religion to sustain and support their decision to become sober. The latter suggests the importance of a therapeutic community in the active coping stage of sobriety [54]. AA and treatment, based most often upon a 12-Step approach, bring together individuals focused upon a central idea of leading healthy, sober lives and developing spirituality. However, it is clear from our participants' stories that the Therapeutic Community need not be limited to AA or treatment, or settings in which recovery from alcohol is a central focus.

Limitations

This study is heuristic in nature. Its sample is not representative, nor are its findings intended to be generalizable. Future research is needed using larger and more representative samples to determine if the sequences described here are shared pathways common to other AN. Important differences exist between AN, and between AN, American Indian and other indigenous groups, whose recovery pathways may also differ. For example, we excluded participants who did not achieve 5 years of sobriety. Therefore, it is unclear if the PA model describes sequences in partial or unsuccessful recovery attempts as well. Further, as this study focused upon sobriety, rather than alcohol abuse, we did not collect extensive data on the drinking history of our sample. Therefore, we do not know if our sample's experience with alcohol abuse or addiction is representative or comparable to those who do not achieve sobriety.

The strength of the study lies in its in-depth understanding of people's lived experiences of their recovery process. From these lived experiences, we have proposed a theory of recovery that both informs current understandings as well as offering new insights that have implications for treatment and recovery support programs.

Implications for treatment

The proposed cultural understandings of the AN recovery process provide a number of concrete recommendations to guide service providers in their addiction treatment work. First, healing of trauma emerged as an

important issue in the process of recovery in a large number of the life histories. Our heuristic model suggests that trauma is in many cases implicated in the etiology of AN substance abuse, consistent with other research [55–57]. This suggests a need for additional research in this area, and further analysis of our data to establish in more detail the theoretical link between the lack of trauma and protection.

Secondly, our model suggests that AN people are both resilient and active in shaping their recovery process. They do this by utilizing a very personal reflexive process of thinking over their own unique experience. This suggests that successful treatment with AN needs to become less driven by formulized treatment programs, and instead offer flexibility in the treatment process in order to promote personal reflection at key opportune times. The role of the treatment professional is, in part, to be a support person who the client can trust not to judge, evaluate or confront while sharing these reflections in their 'thinking over' process. This approach is quite amenable to cultural adaptations of brief formats of treatment such as motivational interviewing [58].

Thirdly, our AN participants stressed repeatedly how interconnected they were with family and community. The process of recovery forced them to consider their responsibilities, and to reach back into their early lives in order to find role models of giving to others. Opportunities for giving, giving back, building this sense of responsibility and exploring potential role models from the past are needed in treatment. The PA model emphasizes enhancement of a sense of competence through joining with others.

Finally, the AN life histories emphasized the development of an awareness attuned to family and community needs as frequently motivating change in recovery. This suggests the importance of building culturally congruent methods to foster this culturally patterned form of mindfulness in AN treatment programs.

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References

1. Miller W. R., Tonigan J. S. *The Drinker Inventory of Consequences (DrInC): An Instrument for Assessing Adverse Consequences of Alcohol Abuse.* Rockville, MD: National Institute of Alcohol Abuse and Alcoholism; 1995.
2. Allen J., Mohatt G. V., Rasmus S. M., Hazel K., Thomas L., Lindley S. *et al.* The tools to understand: community as co-researcher on culture specific protective factors for Alaska Natives. *J Prev Interv Commun* 2006; **32**: 41–64.
3. Mohatt G. V., Hazel K., Allen J. R., Hensel C., Stachlerodt M., Fath R. Unheard Alaska: culturally anchored participatory action research on sobriety with Alaska Natives. *Am J Commun Psychol* 2004; **33**: 263–73.
4. Sobell L. C., Ellingstad T. P., Sobell M. B. Natural recovery from alcohol and drug problems: methodological review of the research with suggestions for future directions. *Addiction* 2000; **95**: 749–64.
5. Russell M., Peirce R. S., Chan A. W. K., Wieczorek W. F., Mocasto B. S., Nochajski T. H. Natural recovery in a community-based sample of alcoholics: study design and descriptive data. *Subst Use Misuse* 2001; **36**: 1417–41.
6. Prochaska J. O., DiClemente C. O., Norcross J. C. In search of how people change: applications to addictive behaviors. *Am Psychol* 1992; **47**: 1102–14.
7. Cunningham J. A., Sobell L. C., Sobell M. B., Kapur G. Resolution from alcohol treatment problems with and without treatment: reasons for change. *J Subst Abuse* 1995; **7**: 365–72.
8. Kunitz S. J., Levy J. E. *Drinking Careers: A Twenty-Five-Year Study of Three Navajo Populations*. New Haven: Yale University Press; 1994.
9. Bien T., Bien B. *Mindful Recovery: A Spiritual Path to Healing from Addiction*. New York: Wiley; 2002.
10. Bowen S., Parks G. A., Coumar A., Marlatt G. A. Mindfulness meditation in the prevention and treatment of addictive behaviors. *Psychol Addict Behav* 2006; **20**: 343–7.
11. Marlatt G. A. Buddhist philosophy and the treatment of addictive behaviors. *Cogn Behav Prac* 2002; **9**: 44–50.
12. Marlatt G. A., Witkiewitz K., Dillworth T., Bowen S., Parks G. A., Macpherson L. M. *et al.* Vipassana meditation as a treatment for alcohol and drug use disorders. In: Hayes S. C., Linehan M., Follette V., editors. *Mindfulness and Acceptance*. New York: Guilford Press; 2004. p. 261–87.
13. DiClemente C. C., Prochaska J. O., Fairhurst S. K., Velicer W. F., Velasquez M. M., Rossi J. S. The process of smoking cessation: an analysis of precontemplation, contemplation, and preparation stages of change. *J Consult Clin Psychol* 1991; **59**: 295–304.
14. Breslin F. C., Zack M., McMain S. An information-processing analysis of mindfulness: implications for relapse

prevention in the treatment of substance abuse. *Clin Psychol Sci Pract* 2002; **9**: 275–99.
15. Teasdale J. D., Segal Z., Williams J. M. G. How does cognitive therapy prevent depressive relapse and why should control (mindfulness) training help? *Behav Res Ther* 1995; **33**: 25–39.
16. Beauvais F. American Indians and alcohol. *Alcohol Health Res World* 1998; **22**: 253–9.
17. Spicer P. Culture and the restoration of self among former American Indian drinkers. *Soc Sci Med* 2001; **53**: 227–40.
18. Brems C. Substance use, mental health, and health in Alaska: emphasis on Alaska Native People. *Arctic Med Res* 1996; **55**: 135–47.
19. Frank J. W., Moore R. S., Ames G. M. Historical and cultural roots of drinking problems among American Indians. *Am J Public Health* 2000; **90**: 344–51.
20. Guyette S. Selected characteristics of American Indian substance abusers. *Int J Addict* 1982; **17**: 1001–14.
21. May P. A. Substance abuse and American Indians: prevalence and susceptibility. *Int J Addict* 1982; **17**: 1185–209.
22. May P. A. Alcohol abuse and alcoholism among American Indians: an overview. In: Watts T. D., Wright R. J., editors. *Alcoholism in Minority Populations*. Springfield, IL: Charles C. Thomas Publishers; 1989, p. 95–119.
23. Segal B. Drinking and drinking-related problems among Alaska Natives. *Alcohol Health Res* 1998; **22**: 276–81.
24. Stillner V., Kraus R. F. C. G. L., Hardenbergh D. Drug use in very rural Alaska villages. *Subst Use Misuse* 1999; **34**: 579–93.
25. Berkowitz G., Peterson S., Smith E. M., Taylor T., Brindis C. Community and treatment program challenges for chemically dependent American Indian and Alaska Native women. *Contemp Drug Probl* 1998; **25**: 347–71.
26. Leung P. K., Kinzie J. D., Boehnlein J. K., Shore J. H. A prospective study of the natural course of alcoholism in a Native American village. *J Stud Alcohol* 1993; **54**: 733–8.
27. Nixon S. J., Phillips M., Tivis R. Characteristics of American-Indian clients seeking inpatient treatment for substance abuse. *J Stud Alcohol* 2000; **61**: 541–7.
28. May P. A. *The Prevention of Alcohol and Other Drug Abuse Among American Indians. A Review and Analysis of the Literature.* Report no.: DHHS Publication no. (SMA) 95-3042. Washington, DC: Center for Substance Abuse Prevention; 1995.
29. May P. A., Gossage P. New data on the epidemiology of adult drinking and substance use among American Indians of the northern states: male and female data on prevalence, patterns, and consequences. *Am Indian Alaska Native Ment Health Res* 2001; **10**: 1–26.
30. Quintero G. The lizard in the green bottle: 'Aging out' of problem drinking among Navajo men. *Soc Sci Med* 2000; **51**: 1031–45.
31. Weibel-Orlando J. Treatment and prevention of Native American alcoholism. In: Watts T. D., Wright R. J., editors. *Alcoholism in Minority Populations*. Springfield, IL: Charles C. Thomas; 1989, p. 121–39.
32. Robinson T. N., Sirard J. R. Preventing childhood obesity: a solution-oriented research paradigm. *Am J Prev Med* 2005; **28**: 194–201.
33. Ogunwole S. U. *The American Indian and Alaska Native Population: 2000. Census 2000 Brief.* Department of Commerce, Economics and Statistics Administration, editor. Washington, DC: US Government Printing Office; 2002.
34. Department of the Interior Bureau of Indian Affairs. Indian entities recognized and eligible to receive services from the United States Bureau of Indian affairs: notice. *Fed Regist* 2002; **134**: 46327–33.
35. Alaska Native Language Center. *Alaska Native Languages*. University of Alaska Fairbanks; 2003. Available at: http://www.uaf.edu/anlc/languages.html (accessed 30 April 2005).
36. Mohatt G. V., Rasmus S. M., Thomas L., Allen J., Hazel K., Hensel C. *et al.* 'Tied together like a woven hat': protective pathways to sobriety for Alaska Natives. *Harm Reduct J* 2004; **1**: 10. Available at: http://www.harmreductionjournal.com/content/1/1/10 (accessed 8 March 2005).
37. Strauss A., Corbin J. *Basics of Qualitative Research: Grounded Theory Procedures and Techniques*. Newbury Park, CA: Sage Publications; 1990.
38. Milstein B., MacQueen K. M. AnSWR on the horizon. *Practicing Anthropology* 1994; **16**: 34–5.
39. Miles M. B., Huberman A. M. *Qualitative Data Analysis: An Expanded Sourcebook*, 2nd edn. Thousand Oaks, CA: Sage Publications; 1994.
40. West R. T. Further commentaries on West (2005). The transtheoretical model of behaviour change and the scientific method. *Addiction* 2005; **101**: 768–78.
41. Hazel K. L., Mohatt G. V. Cultural and spiritual coping in sobriety: informing substance abuse prevention for Alaska Native communities. *J Commun Psychol* 2001; **29**: 541–62.
42. Jellinek E. M. *The Disease Concept of Alcoholism.* New Brunswick, NJ: Hillhouse; 1960.
43. Resnick S. G., Fontana A., Lehman A. F., Rosenheck R. A. An empirical conceptualization of the recovery orientation. *Schizophr Res* 2005; **75**: 119–28.
44. Sobell L. C., Cunningham J. A., Sobell M. B. Recovery from alcohol problems with and without treatment: prevalence in two population surveys. *Am J Public Health* 1996; **86**: 966–72.
45. Armor D. J., Meshkoff J. E. Remission among treated and untreated alcoholics. *Adv Subst Abuse* 1983; **3**: 239–69.
46. Blomqvist J. Treated and untreated recovery from alcohol misuse: environmental influences and perceived reasons for change. *Subst Use Misuse* 1999; **34**: 1371–406.
47. Cunningham J. A., Sobell L. C., Sobell M. B. Are disease and other conceptions of alcohol abuse related to beliefs about outcome and recovery? *J Appl Soc Psychol* 1996; **26**: 773–80.
48. Katz R. *Boiling Energy: Community Healing Among the Kalahari Kung*. Cambridge, MA: Harvard University Press; 1982.
49. Marlatt G. A., Kristeller J. Mindfulness and meditaton. In: Miller W. R., editor. *Integrating Spirituality in Treatment: Resources for Practitioners*. Washington, DC: American Psychological Association Books; 1998, p. 67–85.
50. Buxton M. E., Smith D. E., Seymour R. B. Spirituality and other points of resistance to the 12-Step recovery process. *J Psychoact Drugs* 1987; **19**: 275–86.
51. Chappel J. N. Effective use of Alcoholics Anonymous and Narcotics Anonymous in treating patients. *Psychiatr Ann* 1992; **22**: 409–18.
52. Clinebell H. J. *Counseling for Spiritually Empowered Wholeness: A Hope-Centered Approach*. New York: Haworth Pastoral Press; 1995.
53. Miller W. R. Researching the spiritual dimensions of alcohol and other drug problems. *Addiction* 1998; **93**: 979–90.
54. De Leon G. *The Therapeutic Community. Theory, Model, and Method.* New York: Springer Publishing Co; 2000.

55. Deters P. B., Novins D. K., Frickensher L., Beals J. Trauma and posttraumatic stress disorder symptomtology: patterns among American Indian adolescents in substance abuse treatment. *J Orthopsychiatry* 2006; **76**: 335–45.
56. Saylors K., Daliparthy N. Violence against native women in substance abuse treatment. American Indian and Alaska Native Mental Health Research. *J Natl Center* 2006; **13**: 32–51.
57. Walters K., Simoni J. M. Trauma, substance use, and HIV risk among urban American Indian women. *Cult Divers Ethn Minor Psychol* 1999; **5**: 236–48.
58. Miller W. R., Zweben R., DiClemente C. C., Rychtarik R. G. *Motivational Enhancement Therapy Manual: A Clinical Tool for Therapists Treating Individuals with Alcohol Abuse and Dependence.* Project MATCH Monograph Series. Vol. 2, DHHS Publication No. 94-3723. Rockville, MD: US Department of Health and Human Services, National Institute of Alcohol Abuse and Alcoholism; 1992.