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**A psychological approach to understanding resilient communities: The contributions of individuals and of the community**

**Nicole Legate and Netta Weinstein**

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**Corresponding Author contact details:**  
[netta@essex.ac.uk](mailto:netta@essex.ac.uk)

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## **A psychological approach to understanding resilient communities: The contributions of individuals and of the community**

**Nicole Legate<sup>a</sup> and Netta Weinstein<sup>b</sup>**

a. University of Rochester

b. University of Essex

### **Abstract**

Throughout this volume, we are introduced to communities from around the globe adapting to drastic social, economic and ecological changes in an effort to preserve their way of life in the face of powerful stressors. This paper provides a psychological perspective of the resilience demonstrated by these communities, drawing on the major themes of coping and positive adaptation that run through the case studies in this volume. We discuss how social-ecological resilience can emerge as a function of the individuals within it and how fostering the psychological needs of community members can promote resilience. Using this framework, we then illustrate two types of interventions aimed at promoting social-ecological resilience. Finally, we put forward questions that we see as most important for further investigation.

From a psychological perspective examination of the construct *resilience* reflects attempts to identify the characteristics that predict more positive outcomes after stressful and changing life events (Kessler & McLeod, 1984; Rutter, 1979). The literature on resilience at an individual level is focused on identifying patterns of positive adaptation or recognizing which individuals are likely to respond to change with lower stress attributions, less physical illness, and less psychological disorder (Dohrenwend & Dohrenwend, 1974; Elliott & Eisdorfer, 1982) – or in other terms the extent to which individuals experience less pathology and inner conflict (between emotions, behaviors, perceptions, etc.), and higher functioning and well-being across time, particularly after encountering stressors. Higher functioning and well-being are concepts typically assessed with self-report, using several items to measure constructs like self-esteem, depression, anxiety, physical health, productivity and feelings of belongingness or relatedness. Taking this approach to the group level, a psychological perspective would define resilient societies as those that are capable of withstanding stress and change, both in terms of their capacities to avoid fragmentation of the group and in terms of continuing prosperity under times of stress (see also, Land & Vine, 2011).

We propose that resilience at the societal level is characterized by a cyclical interaction between individuals and the society (Figure 1), such that societies that positively shape the experiences of their members (encouraging psychological flourishing at the individual level) are made more resilient by their members' contributions to the community under times of stress, for example during times of changing global structures and depleted natural resources.



Figure 1. Cyclical nature of support between society and the individual

### The impact of society on the individual

We argue that social-ecological resilience comes about, in part, when societies provide their members continuing opportunities for basic psychological need satisfaction. In other words, when individuals feel cared for and supported by their community, they will have more energy, motivation and desire to come together to cope with and recover from set backs and challenges. Human beings require psychological nutriments from their social environments and life experiences in much the same way that plants require oxygen and water. Without these psychological nutriments people are less likely to thrive – much as a plant struggles to grow under depleted environmental conditions. Psychological research has provided abundant evidence that three basic needs are most essential to human functioning: These are the needs for competence (Harter, 1978; Deci & Ryan, 1985; Ryan &

Deci, 2000; White, 1963), relatedness (Baumeister & Leary, 1995; Reis, 1994), and autonomy (deCharms, 1968; Deci, 1975). Satisfaction of the need for *competence* comes from the perception that one is able to influence his or her environment in intended and desirable ways. Social contexts support people's sense of competence by providing positive and useful feedback and presenting individuals with optimal challenges. As an example, individuals whose livelihoods involve certain skills or training and that result in some measure of success are most likely to experience competence satisfaction in the long term such as with the Aboriginal Australians (Cullen-Unsworth & Wallace, 2011). The second need – that for *relatedness* – involves the feeling of closeness and connectedness that one experiences with intimate others and with one's community. Social environments provide individuals with a sense of relatedness when they support close relationships and when they help people to feel they are 'on the same team' as their community members, as illustrated by practices such as "catch sharing" of fish among Bajau households in Indonesia (Clifton, 2011). Finally *autonomy* is the perception that one's behavior is self-congruent, self-determined, and emerging choicefully from oneself. As a note, the term autonomy is often confused with the concepts of independence, detachment, or selfishness. Indeed, to the extent that societies create detachment and independence they may be expected to deplete autonomy, as well as thwart the satisfaction of other psychological needs (Kim, Butzel, & Ryan, 1998). Individuals can autonomously choose to depend on one another in times of hardship, as is important for the issue of socio-economic resilience at the community level. Social environments can support community members' sense of autonomy by encouraging behaviors that are congruent with the individuals' desires and values, rather than pressuring them to act in ways that are consistent with other people's values. In addition, societies can create a sense of autonomy by helping individuals to understand the rationale for particular decisions or changes at the community level, which in turn helps members to volitionally engage in behaviors they adopt for accommodating to changes (see also Bunting, 2011). Satisfaction of each of the three basic psychological needs is essential for continuing growth, resilience and flourishing: Individuals will orient toward growth and well-being to the extent that their societies and social environments respond to them in ways that support these needs, enabling them to flexibly adapt to drastic socio-economic changes. Importantly, the relevance of basic psychological needs for well-being is not a culturally specific one. Research has shown that satisfaction of the basic psychological needs is important universally, for example in both Western individualistic cultures as well as in Eastern, collectivist ones (Chirkov, Ryan, Kim, & Kaplan, 2003; Jang, Reeve, Ryan, & Kim, 2009; Ryan, La Guardia, Solky-Butzel, Chirkov, & Kim, 2005). Using samples from a diverse set of cultures, studies have specifically shown that basic need satisfaction allows people to experience a sense of well-being, life meaning, and energy or aliveness (Ryan & Frederick, 1997). On the other hand, being deprived of need satisfaction results in poorer stress regulation and consequent higher anxiety, depression, burnout, and lower energy or vitality (e.g., Gagné, Ryan, & Bergmann, 2003; Lynch, Plant, & Ryan, 2007; Reis et al., 2000). Throughout much of the work in this volume, it is evident that societies are providing psychological need satisfaction of competence, autonomy and relatedness to their members (e.g., Clifton, 2011; Land & Vine, 2011; Cullen-Unsworth & Wallace, 2011).

A second way that societies can foster individual flourishing is by providing people with a sense of valued and personally endorsed group identity (see also Haslam, Jetten, Postmes & Haslam, 2009; Warner, 2001). Social identity is the perception of oneself as part of a specific community, which can help to define oneself and offers some structure for pursuing life goals and life meaning (see for example a discussion on the Irish identity, Connolly, 1997). Healthy identities are those that are experienced autonomously; that is, they are valued and personally endorsed. Healthy social identities and social cohesion have a transactional relation: Social identity results from social cohesion, and it also contributes to stronger social cohesion (Ellemers, de Gilders & Haslam, 2004). Communities that have a strong sense of history, ongoing traditions, and a shared purpose are likely to foster such a sense of group identity. For example, the Ganga river in India represents a key part of the riverside communities' sense of group identity: "These communities depend on the continued

existence of ‘their’ river, and a threat to that is perceived to be a threat to the communities’ cultural heritage” (Lokgariwar, 2011). As well, psychological need satisfaction has been shown to have a reciprocal and positive effect on identity commitment (Luyckx, Vansteenkiste, Goossens & Duriez, 2009). In turn, we posit that a healthy social identity helps to maintain a sense of group cohesion and consequent relatedness under times of stress, and that it gives members a sense of meaning or purpose even under changing circumstances.

### **The impact of the individual on the society**

Rural and urban communities around the world are faced with the challenges to maintain or increase their resilience as they are faced with depleted resources and changing social structures. Resilient societies can be thought of as emerging as a function of two linked processes. As environmental and contextual changes inevitably take place, the structure of societies can help individuals to handle new challenges and stressors. As well, societal resilience can emerge as a function of the individuals within it – those individuals that are capable and energized to build a stronger society. To the extent that the individuals have the capacity to handle stressors, they further their society.

Individuals who are flourishing experience a sense of well-being – they report lower incurred anxiety, more happiness, and more satisfaction with their lives (Ryan, Huta & Deci, 2008). These individuals also are self-motivated, energized and vital, and ready to take on new challenges, develop new skills, and contribute to their communities (Ryan & Deci, 2000; Weinstein & Ryan, 2010). As such, environments that foster individual growth and flourishing benefit resilience at the individual level, and they benefit resilience at the societal level. That is, they allow members to meet societal challenges head on, to act toward the benefit of their communities, and to provide support to one another.

According to motivational theory, humans are naturally inclined toward flourishing and well-being (e.g., Deci & Ryan, 1985). Yet, under conditions that thwart individuals’ sense of competence, autonomy, and relatedness, people are vulnerable to being undermined in their energy, flexibility, and wellness. Despite people’s willingness and desire to take new challenges, environments that undermine people’s abilities, isolate them from their communities, or prevent them from actualizing their potential create psychological stress. And psychological stress, in turn, depletes people’s natural energy to adapt and their abilities to be resilient to new demands and challenges (Selye, 1956). Depleted individuals may be expected to respond more poorly to changes at the societal level that require adaptation in terms of lifestyles, resources, or community structures.

### **Resilient Societies**

Considering shifting economic and social structures and depleted natural resources worldwide, communities that hold traditional agriculture and cultural heritage as essential ways of life have been and will continue to be under psychological strain. It is essential that these societies in particular, and the global population more generally, are capable of responding to changes in proactive and flexible ways. Case studies examining both traditional and developing communities around the world indicated that two central lifestyle components are of particular relevance to the study of societal resilience. The first was that societies flourished when they were able to rely effectively on the land and on local agriculture, and could do so in ways that were self-sustaining and that utilized lessons learnt from predecessors in the community. The second was that resilient societies shared traditions and heritage in a way that was conducive to psychological well-being. We believe that these aspects of societies help to promote their resilience from the ground up – by

encouraging individual flourishing that in turn leads to resilience at the societal level, and we will discuss each in turn.

### *Agriculture*

Traditional societies strongly rely on the land and on agriculture for self-sustenance. Local agriculture provides physical nurturance but also has the potential for supplying psychological nurturance to members of the community. With traditional landuse comes a sense of connection to the land, and the perception that one can employ the land to produce and provide for others. Although agriculture naturally involves some measure of risk and uncertainty (e.g., fluctuations in droughts or floods, heat waves, disease), traditional communities cope and adapt to changing conditions, and they may benefit from hope for more fertile future seasons. Societies also have consistent means of adapting; for example, the *campesinos* of Cuba adapt to different conditions by growing crop that is diversified and locally adapted (Funes-Monzote, 2011).

When local communities are successful in farming, members experience satisfaction of the basic psychological needs of competence, relatedness, and autonomy. When members of a society feel that they have the capability of employing the land for their own and their community's sustenance, members are likely to experience a sense of self-efficacy or competence, derived in part from the feeling that one is able to take care of oneself and close others. Efficacy may also be derived by the daily interactions individuals have with the land. The routine of interacting with the land – of engaging in the varied day to day behaviors that ultimately produce livelihood, are in themselves conducive to a sense of efficacy. These behaviors require some measure of skill, are challenging and often optimally so, and typically produce some measure of desired results. As a result, communities such as those of the *campesinos* may experience greater self-efficacy from the mere engagement in farming that others in Cuba who largely depend on imported food may not.

Community members who work directly with the land may also benefit by experiencing relatedness with intimate others and with the natural environments with which they interact daily. For example the Aboriginal Australians see their environment as intricately connected to humans (Cullen-Unsworth & Wallace, 2011) Farming provides daily contact with nature, which has been shown to produce a feeling of closeness and connection (Frantz, Mayer, Norton, & Rock, 2005; Wilson, 1984) that is similar to the closeness that people feel with intimate others. In fact, additional research has shown that feeling close to nature directly fosters caring relationships with other people (Weinstein, Przybylski, & Ryan, 2009). As such, individuals who work the land may derive satisfaction for their need for connection on a daily basis, and as a result experience the associated well-being benefits. A clear example of is seen with *Bajau* individuals in Indonesia, who reported feelings of loss or sadness when they were away from the sea where they base their livelihood (Clifton, 2011). As well, families and groups that share responsibility for common land likely derive a sense of connectedness from sharing daily tasks and a common purpose. We propose that the satisfaction of the need for relatedness derived from working with the land and sharing responsibility for the land with others accounts for why farming communities in *Colchester* in the UK provide a sense of well-being to their members (Land & Vine, 2011). Further, relatedness satisfaction increases motivation to maintain farming communities such as these, especially when faced with hardship. Finally, the transfer of knowledge and skills across generations is an essential part of maintaining their livelihood (e.g., Clifton, 2011). This transfer of knowledge and skills also functions to solidify relationships between older adults and youth, thus providing a sense of care and connection that is bidirectional between the generations.

### *Tradition*

As well as relying on the land, resilient societies seem to benefit from their shared values and traditions. Whereas landuse practices may have the capacity to satisfy basic psychological needs of competence and relatedness, we propose that cultural traditions and practices may play an

important role in the development of community identity, and when transmitted without pressure and coercion, traditions are capable of satisfying the basic need for autonomy. Reviews of *Siberian* communities (Mustonen, Shadrin, Mustonen, & Vasiliev, 2011), rice-fish farming communities in China (Qingwen & Lu, 2011) and the *Kuku Nyugkal* of Australia (Cullen-Unsworth & Wallace, 2011) highlighted this point when they emphasized the importance of tradition for community cohesion. Cultural traditions may be critical in promoting a sense of group identity and commitment to the group, and in shaping the values shared by community members. In providing these functions, tradition can facilitate a sense of group cohesiveness and contribute to members acting in ways that benefit the community, but it is also capable of shaping the personal identities of community members. For this to happen, we propose that community traditions and beliefs must be adopted choicefully by young community members and transmitted in a context of caring adult relationships. Under these conditions, traditions and societal values are fully internalized (that is, they are adopted by the individual and take on a personal value or meaning; Deci & Ryan, 2000), they provide a structure for identifying important choices, and they encourage individuals to behave in ways that both increase group cohesiveness and reflect personally held values, which provides a sense of autonomy and wellness. Tradition and community values may therefore be especially important in holding together communities faced with changing economic and social conditions.

### *Community challenges*

Psychological stress arises when one perceives oneself as being unable to predictably anticipate challenges and outcomes, when one's world views are called into question (Miller, 1981), and when perceiving oneself as lacking the necessary resources to deal with changing circumstances (e.g., Bovier, Chamot, & Perneger, 1998). With globalization and diminishing natural resources societies are facing a new set of challenges and risks that place them under precisely the conditions that make individuals vulnerable to psychological stress. Three major negative outcomes are expected. The first possible and concerning outcome is that communities will fail to adapt to changing circumstances, and as a result they will be unable to sustain themselves. A second outcome is that with depleted capacity for making a living and providing members with food, communities will fragment because younger generations will leave the community to pursue financial success in local or foreign cities. Finally, a major concerning outcome lies in the loss of psychological need satisfaction and well-being of community members who are unable to adapt to new conditions.

These points are highlighted in the case review of the *Uttarakhand* in India (Lokgariwar, 2011). For this community, relying on the Ganga river has been a way of life for numerous generations. Only more recently have the Uttarakhand faced problems such as pollution that result from new industry in the area. From a psychological perspective, such problems are particularly harmful to well-being. Research has shown that when individuals attribute thwarting conditions to interference by other people, rather than to naturally occurring changes, they are more likely to feel controlled and helpless, with direct consequences to their sense of autonomy and competence (Moller, Deci, & Ryan, 2006). Individuals feeling hopeless and helpless affect the resilience of their communities in that members believe they are unable to affect their environment and protect their way of life, thus depleting their motivation and energy to persevere. Such emotions also feed back to influence group cohesion. Under conditions of helplessness and hopelessness, members feel economic hardships more strongly, and younger generations are more likely to leave their way of life when challenging times meet the community.

### **Interventions to promote resilience**

The communities presented in the case studies have sustained themselves through many hardships throughout their long histories, but perhaps no past hardship poses as big a threat to these

traditional communities as the economic and environmental changes occurring in our modern day society. Global problems like pollution, over-fishing, and climate change render many of these small communities powerless to stop the destruction. During this challenging time, communities must be particularly resilient and adapt in order to maintain their way and quality of life.

Recognizing the need to support resilience in these communities, we envision two types of interventions that could help bolster and reinvigorate the motivation within these communities to adapt and flexibly meet these challenges. Drawing from the hardships illustrated in the case studies, we believe that interventions promoting resilience can be achieved in two ways: promoting community resilience both 'from within' the community and 'from without'. First, we propose an intervention from within the community, whereby trusted leaders reinforce the basic psychological needs of relatedness, competence and autonomy in members. Next, we see the intervention 'from without' having parallels to interventions that target health behaviors, whereby individuals from outside the community can educate the community and nearby organisations about destructive practices. They should aim to help the community and organizations see the value in sustainable practices, thus stimulating their desire and commitment to change their behavior. In many ways, the proposed interventions mirror the framework for promoting sustainable livelihoods in Bunting (2011) in this volume.

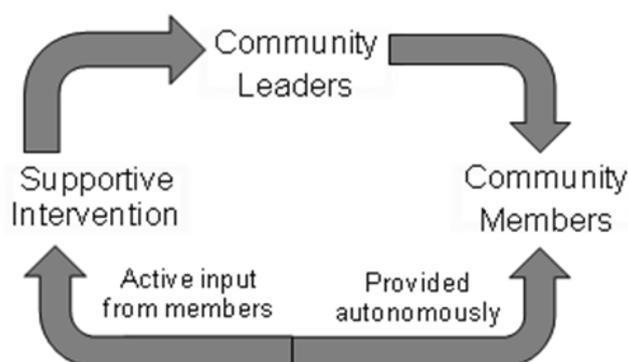


Figure 2. Interventions from within and without the community

Both types of interventions seek to stimulate the basic psychological needs of community members. We chose to focus on satisfying psychological needs rather than to an approach that directly focuses on "fixing the problem" because the former has consistently been found to promote greater wellness, readiness for change, and more positive and lasting outcomes (Williams et al., 2006; see Hettema, Steele, & Miller, 2005 for a meta-analysis). Kindling the motivation already alive in community members by providing psychological need support should help members to face the problems of depleted resources and economic hardship. In this way, interventions that aim to satisfy the psychological needs will promote greater wellness at the individual level and more flourishing at the community level.

The first aim of the proposed interventions is to increase autonomous motivation in community members to make the changes necessary to preserve their community. Autonomous motivation concerns the extent to which people behave out of a sense of choice and personal endorsement, and their actions fit with deeply held values (Ryan & Deci, 2000). Fostering autonomous motivation will take different approaches in the two interventions. Interventions 'from within' will use the autonomous motivation that is already present and alive in these individuals and stimulate it. Interventions 'from without' will focus on promoting internalization, or "taking in," of values that encourage sustainable behaviors, and nurture a deep understanding of how current practices are threatening the long term prosperity of these traditional communities. Research shows that having autonomous and well-internalized motivation predicts better outcomes, such as more

persistence (Deci & Ryan, 1991), vitality and energy (Nix et al., 1999) more creativity (Amabile, 1983) and better assimilation of the individual member within his or her social group (Ryan, Kuhl & Deci, 1997). These outcomes are directly relevant to a community coping with large-scale changes, as facilitating persistence, energy and creativity in members will likely translate into resilience in the community as a whole. The case studies illustrate the energy and inner resources in these communities. Also of importance, the proposed interventions aim to enhance feelings of competence by encouraging individuals to use their knowledge of the land or other resources to brainstorm new ways of tackling problems, and to preserve their traditions and sense of community connectedness. We now discuss these two types of interventions fostering resilience in more detail.

### **Promoting resilience from within**

We foresee interventions led by trusted leaders from within the community as effective ways to promote resilience. What we see as a guiding objective in an intervention promoting resilience ‘from within’ is nicely illustrated in the Snowchange Cooperative’s description of their project in Siberia: it “allows the local Indigenous peoples to participate in a meaningful way in research that involves and affects them (Mustonen, Shadrin, Mustonen, & Vasiliev, 2011).” These interventions ‘from within’ would have a content-focus of fostering traditions and improving practices to use their lands and resources in a sustainable way. The process of this intervention will likely promote a sense of competence in members’ abilities to overcome obstacles, members’ feelings of choicefulness or autonomy that come from upholding deeply held values and traditions, and a sense of community connectedness and cohesion.

### **Community resilience by autonomously fostering traditions**

A review of the case studies reveals the essential role traditions play in maintaining societal well-being, community cohesion, and the social identity of community members. Yet the younger generation sometimes has a desire to abandon the community in pursuit of economic prosperity elsewhere. Educating the youth from an early age through adolescence about community traditions and their rationale, then, seems important. The *Snowchange Cooperative* in the Russian Arctic and the *Nutendli nomadic school* provide a ground-up model for transmitting traditions to the younger generation and providing psychological need support for community members (Mustonen, Shadrin, Mustonen, & Vasiliev, 2011). In the nomadic school, students learn traditional and new knowledge from local elders and teachers, become deeply involved in long-held traditions like reindeer herding and fishing, and learn about working with the resources in their environs “in action.” This school serves to preserve the culture, knowledge, and nomadic way of life of this society. The research project carried out by the Snowchange Cooperative also appeared to satisfy the psychological needs in the people with whom they worked. The authors documented traditional knowledge for dealing with problems created by rapid climate change. Seeking participation from community members and valuing their inputs on the ecological changes seemed to empower the people and give them more energy to sustain their culture. Moreover, this intervention treated each participant as a “co-owner” of the research, allowing him or her to decide which parts they wanted the researchers to disseminate. These practices likely promoted community members’ needs for autonomy and competence, which we expect translated into overall community wellness and cohesion.

Beyond life-long learning about Indigenous traditions, it is important to address the conflict that adolescents and young adults might experience between seeking a new way of life and fidelity to their community. Acknowledging and empathizing with this search may feel counterintuitive to close others and to members of the community, and this type of support was not readily apparent in our review of the case studies. However, we see this as an important point to highlight because

pressuring adolescents to follow the traditional ways of the community is likely to result in conflict, alienation, anxiety, and depression (Deci & Ryan, 2000), and is likely to distance them from the very value system the community wishes them to adopt. Instead, autonomy supportive contexts seek to find ways to nurture and facilitate the adolescents' inner desire to uphold these values (Reeve, Deci & Ryan, 2004). Tailored from interventions in the psychological literature (e.g., Deci & Ryan, 2002; Grolnick & Ryan, 1987; Reeve, 2006), providing autonomy support in this context would entail understanding the adolescents' perspective, acknowledging their feelings, providing them with a rationale for preserving traditions, involving them in community decision making, and minimizing the use of pressures and demands.

To the extent that community leaders provide adolescents and young adults with autonomy supportive encouragement to adopt societal traditions rather than using controlling behaviors or pressure, they will facilitate greater internalization and autonomous motivation. This will likely also lead to better outcomes, as interventions that foster autonomy consistently result in benefits to well-being and sustained behavior change (e.g., Williams et al., 2006). Parents who provide autonomy support to their adolescents, instead of control or pressure, have better emotional and academic outcomes than those with controlling parents (Roth, Assor, Niemiec, Ryan, & Deci, 2009). Facilitating the transmission of traditions is crucial because it serves to promote the sense of relatedness at the individual level, bond members of the community together, and thus protect against fragmentation of the community (e.g., Cullen-Unsworth & Wallace, 2011; Qingwen & Lu, 2011).

### **Community resilience by aiding in land use**

The issue of land use is intimately connected to that of preserving traditions. Communities that lose their land and can no longer directly depend on it for survival may be vulnerable to losing their traditional knowledge related to land use (Pilgrim, Smith & Pretty, 2007). Because living off of the land is crucial for the socio-economic resilience of these communities, interventions should focus on generating ideas for preserving community knowledge. It is thus an important aspect of any intervention to utilize the knowledge that community members have of the land and their resources in order to generate new and creative ways of tackling the economic or ecological problems they face.

As we have argued that working off of the land provides support for the psychological needs of autonomy, competence, and relatedness, interventions that promote sustainable land use practices will promote satisfaction of these psychological needs. The intervention can serve as a forum for members to exchange ideas for their shared goal of optimizing the land and their resources. This can increase people's feelings of connectedness with one another. Sharing their knowledge of effective land use practices can also serve to bolster individuals' perceived competence. Finally, because the land can offer a sense of identity and a life of purpose, figuring out ways to use the land in the face of changing conditions can promote the community members' sense of personal autonomy.

### **Promoting resilience from without**

Traditions and cultural or business practices may be un-sustainable, and cause harm to the local environment and the communities that live off it. In these cases, individuals from outside the community can educate the Indigenous community and nearby organizations and companies about destructive practices, in a way that shows how employing self-sustaining practices can benefit them as well (also see Bunting, 2011 in this volume). In the same way that we have described the interventions 'from within,' the interventions 'from without' should stimulate autonomous behavior

change and the needs for competence and relatedness in the individuals, thereby leading to enhanced resilience and community functioning.

Interventions from without can be susceptible to imposing demands and rules on these communities and organisations. However, as we have already discussed, control does not lead to lasting or well-internalized behavior change. Internalization of a new behavior, in this case adopting sustainable practices, is much more likely to take place when the facilitators support individuals' psychological needs for autonomy, competence and relatedness (Grolnick & Ryan, 1989; Vallerand, 1997). In fact, research looking at promoting environmentally responsible behaviors found just that: When authorities were perceived as autonomy supportive, individuals internalized the environmental goals more, and accomplished these goals more than those who perceived authorities as controlling and pressuring (Osbaldiston & Sheldon, 2003). It is thus crucial to take an autonomy supportive approach to educating and bringing about changes in these communities and organizations as a way of allowing individuals to transform these values about sustainability into their own.

Promoting resilience 'from without' is an important approach to bolstering resilience, especially when the communities hold traditions or beliefs that may be contributing to their hardship. The case study about shrimp farming practices in the *Sundarbans* mangrove forests of Bangladesh illustrates the harm created by unsustainable practices, and the importance of intervening on these practices to preserve the resources needed for continuing self-sufficiency (Bunting, Kundu, & Ahmed, 2011). Many of the individuals in the Bangladesh communities are over-farming to survive and support their families, a practice that is appealing in the short term but is not sustainable. Facilitating internalization of values related to sustainability is critical in promoting the resilience of this community and in others engaging in unsustainable practices. But it is important to note that these interventions should not only target Indigenous communities, but should also facilitate change in the organizations and businesses that engage in unsustainable practices that adversely affect these communities.

### **Internalizing the value of sustainability: Community level**

Interventions aiming to reduce non-sustainable practices should refrain from using control and pressure to bring about change. Effective interventions would facilitate the internalization, or taking in, of behavior change by first hearing the community's perspective including identifying how members came to make lifestyle choices, empathizing with the difficulty of changing practices and the risks that are involved, and providing a rationale for why behavior change is important to the community's survival. This autonomy-supportive approach minimizes the intrusion to the community's way of life, and will likely promote well-internalized and lasting changes toward sustainability.

To illustrate this idea, consider again the farmers of *Bangladesh*. Many of the local shrimp farmers work in order to reduce their debt, and they don't have opportunities to pursue alternative ways of earning a living because of low education and poor transport. As a result, they over-farm and use harmful aquaculture practices that lead to disease, water pollution, destruction of mangroves, and that exceed environmental capacities. Several important issues should be kept in mind when working with groups such as these. First, it may be helpful to enlist eco-friendly farmers in the region that employ sustainable aquaculture practices to help facilitate the intervention. The authors discussed the exemplar practices of a minority of the people in the *Sundarbans*; hearing from these locals on how they utilize these practices while still making a living could be more credible and feel less intrusive than receiving the same messages from others perceived to be outsiders (and therefore not able to understand members' personal experiences). Next, it is important that facilitators of this intervention convey their understanding of the legitimate motives farmers hold for continuing to over-farm. For example, most people in the region of the Sundarbans

are below the poverty level and over-farm as a means of survival because they do not have alternate means for self-sustenance. Facilitators should also empathize with how difficult it is to change their practices, especially when they have fears that changes could threaten their livelihood. Effective facilitators may also explain the importance of employing sustainable practices and the relevance of the ecosystem for continuing livelihood. Explaining the severe health risks of chemicals to individuals and the community at large, and how depletion of clean water and biodiversity will likely affect future generations, is crucial. In addition, it is important to relate each harmful practice to each of their respective adverse outcomes in a way that can inspire these individuals to work toward change. Lastly, it is necessary to provide a set of alternative practices for farmers, such as the “low-input” farming model described in the Sundarbans case study.

In addition to the objective of changing harmful practices, autonomy supportive interventions should aim to satisfy the psychological needs of the individuals. Presumably, minimizing demands and pressure, empathizing with the perspective of the locals, providing a rationale for the importance of change to the resilience of their community should satisfy the basic need for autonomy of these community members. Facilitating internalization of the importance of sustainability and investing members in this process should increase feelings of agency and personal autonomy. In addition, interventions that highlight positive practices already undertaken by the community and other strengths of the community can help to provide a sense of competence for carrying out sustainable practices in the future. Lastly, organizing and generating ideas about ways to improve the community and the local ecosystem can serve to increase feelings of relatedness and community connectedness.

### **Internalizing the value of sustainability: Organisational level**

Because businesses and organizations often have a considerable environmental footprint that can adversely impact nearby communities, it is also crucial to facilitate internalization of values related to sustainability at the organizational level. The industries polluting the *Ganga river* that are upstream from riverside communities in India provide an example of this (Lokgariwar, 2011). The Ganga has economic, social and spiritual importance to the riverside communities. Most of the livelihoods of these peoples depend on the Ganga directly or indirectly. Some of the pollution has come from domestic sewage waste from the increasing numbers of people living along the river, but industry, arguably, has had the biggest impact on the deteriorated quality of the water. Among other consequences, pollution has led to decreased biodiversity in the river, and poor water quality that is unsafe for drinking or bathing. Thus, it seems important to intervene with the businesses that are significantly polluting the river and threatening the survival of these communities.

The approach to this intervention closely follows the intervention “from without” at the community level with a slightly different content-focus and it complements many of the principles of ‘interest-based negotiation’ outlined by Warner (2001). It is important here to highlight the connections of these riverside communities and the Ganga to the organizations’ values and identities. Understanding how they are interdependent can help managers and owners see the value of mitigating pollution. Interventions may help individuals in industry to more deeply comprehend the ways their practices adversely affect riverside communities, and provide them with alternative practices that could contribute to the flourishing of the Ganga and the communities that it sustains. In the same way that the other interventions seek to satisfy the psychological needs of individuals, facilitating internalization of sustainable practices in organizations should aim to support members in autonomously making decisions about their practices, enhance their feelings of competence for carrying out these changes, and increase their sense of connectedness to riverside communities.

## Conclusions

In this paper we have provided a framework for important aspects characterizing resilient societies, as well as those that threaten community wellness and resilience. Based on psychological theory and themes that emerged in our review of resilient communities internationally, we have identified basic psychological needs as important contributors to societal resilience, likely derived through effective local land use and the autonomous transmission of societal traditions. We have argued that individuals who receive support for their basic psychological needs are more likely to contribute to the maintenance and flourishing of their communities, and they are likely to experience higher psychological well-being and growth. Finally, we have proposed that resilience can be achieved with the help of community interventions derived from psychological approaches, which approach change 'from within' and 'from without', using the strengths and knowledge of community members and leaders. We believe these approaches, and others that address the issues raised in this paper, can help to facilitate wellness, growth, and flourishing in community members, and community strength and cohesiveness over time. It is important to highlight that throughout this paper we made a number of arguments that remain untested. For example, we argued that relatedness or connectedness plays an important role in resilience. Do people's feelings of connectedness to their community *cause* more flexible adaptation and coping to social and economic changes at the societal level? Two types of interventions were proposed in this paper: it is important to test their effectiveness at providing psychological need satisfaction to individuals and at promoting socio-economic resilience at the societal level. We also asserted that community history, traditions, and a shared purpose likely promote a sense of group identity. Testing these relations, especially as they unfold over time represents a crucial next step in this area. These and many other questions lay open for debate. Despite the gaps in our empirical knowledge, this paper represents a first-step in understanding the role of psychological factors that impact socio-economic resilience, and ways to bolster community efforts at coping with and recovering from hardship.

## References

- Amabile, T.M. (1983). *The social psychology of creativity*. New York: Springer-Verlag New York Incorporated.
- Baumeister, R.F., & Leary, M.R. (1995). The need to belong: Desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, 117, 497-529.
- Bovier, P. A., Chamot, E., & Perneger, T. V. (1998). Perceived stress, internal resources, and social support as determinants of mental health among young adults, *Quality of Life Research*, 13, 1, 161-170.
- Bunting, S. W. (2011). Sustainable livelihoods, vulnerability, resilience and adaptation.
- Bunting, S. W., Kundu, N., & Ahmed, N. (2011). Rice-shrimp farming ecocultures in the Sundarbans of Bangladesh and West Bengal, India.
- Chirkov, V. I., Ryan, R. M., Kim, Y., & Kaplan, U. (2003). Differentiating autonomy from individualism and independence: A self-determination theory perspective on internalization of cultural orientations and well-being. *Journal of Personality & Social Psychology*, 84, 97-109.
- Clifton, J. (2011). Ecocultures: A case study of the Bajau in Indonesia.
- Connolly, S.J., 1997. Culture, identity and tradition: changing definitions of Irishness. In: Graham, B., Editor, 1997. *In Search of Ireland: A Cultural Geography*, Routledge, London, pp. 43–63.

Cullen-Unsworth, L. & Wallace, M. (2011). Resilience and returning to country: Rainforest aboriginal people of the wet tropics of Queensland, Australia.

de Charms, R. (1968). *Personal Causation*. New York: Academic Press,

Deci, E.L. (1975). *Intrinsic motivation*. New York: Plenum Publishing Co. Japanese Edition, Tokyo: Seishin Shobo, 1980.

Deci, E. L., & Ryan, R. M. (1985). *Intrinsic motivation and self-determination in human behavior*. New York: Plenum Publishing Co.

Deci, E. L., & Ryan, R. M. (1991). A motivational approach to self: Integration in personality. In R. Dienstbier (Ed.), *Nebraska symposium on motivation: Perspectives on motivation, vol. 38* (pp. 237-288). Lincoln, NE: University Of Nebraska Press.

Deci, E. L., & Ryan, R. M. (2000). The “what” and “why” of goal pursuits: Human needs and the self-determination of behavior. *Psychological Inquiry, 11*, 227-268.

Deci, E. L., & Ryan, R. M. (2002). *Handbook of self-determination research*. Rochester, NY: University of Rochester Press.

Dohrenwend, B. S., & Dohrenwend, B. P. (Eds.), (1974). *Stressful life events: Their nature and effects*. New York, NY: Wiley.

Ellemers, N., de Gilder, D., & Haslam, S. A. (2004). Motivating individuals and groups at work: A social identity perspective on leadership and group performance. *Academy of Management Review, 29*, 459–478.

Elliott, G. R., & Eisdorfer, C. (Eds.), (1982). *Stress and human health: Analysis and implications of research*. New York: Springer.

Frantz, C. M., Mayer, F. S., Norton, C., & Rock, M. (2005). There is no “I” in nature: The influence of self-awareness on connectedness to nature. *Journal of Environmental Psychology, 25*, 425-436.

Funes-Monzote, F. R. (2011). Breaking monoculture: The path towards sustainable agricultura in Cuba.

Gagné, M., Ryan, R. M., & Bergmann, K. (2003). Autonomy Support and Need Satisfaction in the Motivation and Well-Being of Gymnasts,” *Journal of Applied Sport Psychology, 15*, 372-390.

Grolnick, W. S., & Ryan, R. M. (1987). Autonomy in children's learning: An experimental and individual difference investigation. *Journal of Personality and Social Psychology, 52*, 890-898.

Harter, S. (1978). A Model of intrinsic mastery motivation in children: individual differences and developmental change. *Minnesota symposia on child psychology*. Vol. 14. Hillsdale, N.J.

Haslam, S. A., Jetten, J., Postmes, T., & Haslam, C. (2009). Social identity, health and well-being: An emerging agenda for applied psychology. *Applied Psychology: An International Review, 58*, 1–23.

Hettema, J., Steele, J., & Miller, W. R. (2005). Motivational interviewing. *Annual Review of Clinical Psychology, 1*, 91-111.

Jang, H., Reeve, J., Ryan, R. M., & Kim, A. (2009). Can self-determination theory explain what underlies the productive, satisfying learning experiences of collectivistically-oriented Korean students? *Journal of Educational Psychology, 101*, 644-661.

Kessler, R. C., & McLeod, J. D. (1984). Sex differences in vulnerability to undesirable life events. *American Psychological Review, 49*, 620-631.

- Kim, Y., Butzel, J. S. & Ryan, R. M. (1998, June). Interdependence and well-being: A function of culture and relatedness needs. Paper presented at The International Society for the Study of Personal Relationships, Saratoga spring, NY.
- Land, C. & Vine, T. (2011). Community resilience in intentional communities.
- Lokgariwar, C. (2011). Assessment of environmental flows for the Ganga: Cultural and spiritual content.
- Luyckx, K., Vansteenkiste, M., Goossens, L., & Duriez, B (2009). Basic need satisfaction and identity formation: Bridging self-determination theory and process-oriented identity research. *Journal of Counseling Psychology*, 56, 276-288.
- Lynch, M. F., Plant, R., & Ryan, R. M. (2005). Psychological need satisfaction, motivation, attitudes, and well-being among psychiatric hospital staff and patients. *Professional Psychology*,
- Miller, S. M. (1981). Predictability and human stress: Toward a clarification of evidence and theory. In L. Berkowitz (Ed.), *Advances in experimental social psychology* (Vol. 14).
- Moller, A. C., Deci, E. L., & Ryan, R. M. (2006). Choice & ego-depletion: A self-determination theory perspective. *Personality and Social Psychology Bulletin*, 32, 1024-1036.
- Mustonen, Shadrin, Mustonen, & Vasiliev (2011). 'Songs of the Kolyma Tundra' – Co-production and perpetuation of knowledge concerning ecology and weather in the indigenous communities of Nizhnikolyma, Republic of Sakha (Yakutia), Russian Federation.
- Nix, G. A., Ryan, R. M., Manly, J. B., & Deci, E. L. (1999). Revitalization through self-regulation: The effects of autonomous and controlled motivation on happiness and vitality. *Journal of Experimental Social Psychology*, 35, 266-284.
- Osbaldiston, R. & Sheldon, K. M. (2003). Promoting internalized motivation for environmentally responsible behavior: A prospective study of environmental goals. *Journal of Environmental Psychology*, 23, 349-357.
- Pilgrim, S., Smith, D., & Pretty, J. (2007). A cross-regional assessment of the factors affecting ecoliteracy: Implications for policy and practice. *Ecological applications*, 17, 6, 1742-1751.
- Qingwen, M. & Lu, H. (2011). Traditional agricultural knowledge for ecological resilience in rice-culture systems.
- Reeve, J. (2006). Teachers as facilitators: What autonomy-supportive teachers do and why their students benefit. *Elementary School Journal*, 106, 225-236.
- Reeve, J., Deci, E. L., & Ryan, R. M. (2004). Self-determination theory: A dialectical framework for understanding socio-cultural influences on student motivation. In D. M. McInerney & S. Van Etten (Eds.), *Big theories revisited* (pp. 31-60). Greenwich, CT: Information Age Press.
- Reis, H. T. (1994). Domains of experience: Investigating relationship processes from three perspectives. In R. Erber & R. Gilmour (Eds.), *Theoretical frameworks for personal relationships* (pp. 87-110). Hillsdale, NJ: Erlbaum.
- Reis, H. T., Sheldon, K. M., Gable, S. L., Roscoe, J., & Ryan, R. M. (2000). Daily well-being: The role of autonomy, competence, and relatedness. *Personality & Social Psychology Bulletin*, 26, 419-435.
- Roth, G., Assor, A., Niemiec, C. P., Ryan, R. M., & Deci, E. L. (2009). The emotional and academic consequences of parental conditional regard: Comparing conditional positive regard, conditional negative regard, and autonomy support as parenting practices. *Developmental Psychology*, 45, 1119-1142.
- Rutter, M. (1979). Protective factors in children's responses to stress and disadvantage. *Annals of Academic Medicine Singapore*, 8, 3, 324-338.

- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.
- Ryan, R. & Grolnick, W. S. (1986). Origins and pawns in the classroom: Self-report and projective assessments of individual differences in children's perceptions. *Journal of Personality and Social Psychology, 50*, 550-558.
- Ryan, R. M., & Frederick, C. M. (1997). On energy, personality and health: Subjective vitality as a dynamic reflection of well-being. *Journal of Personality, 65*, 529-565.
- Ryan, R. M., Huta, V., & Deci, E. L. (2008). Living well: A self-determination theory perspective on eudaimonia. *Journal of Happiness Studies, 9*, 139-170.
- Ryan, R. M., Kuhl, J., & Deci, E. L. (1997). Nature and autonomy: Organizational view of social and neurobiological aspects of self- regulation in behavior and development. *Development and Psychopathology, 9*, 701-728.
- Ryan, R. M., La Guardia, J. G., Solky-Butzel, J., Chirkov, V. I., & Kim, Y. (2005). On the interpersonal regulation of emotions: Emotional reliance across gender, relationships, and culture. *Personal Relationships, 12*, 146-163.
- Selye, H. (1956). *The stress of life*. New York: McGraw Hill.
- Vallerand, R. J. (1997). Toward a hierarchical model of intrinsic and extrinsic motivation. In M. P. Zanna (Ed.), *Advances in experimental internalization and their relations to religious orientations and mental social psychology* (pp. 271-360). San Diego, CA: Academic Press.
- Warner, M. (2001). Complex problems...negotiated solutions: The practical applications of chaos and complexity theory to community-based natural resource management. *Overseas Development Institute, 1*-26.
- Weinstein, N., Przybylski, A. K., & Ryan, R. M. (2009). Can nature make us more caring? Effects of immersion in nature on intrinsic aspirations and generosity. *Personality and Social Psychology Bulletin, 35*, 1315-1329.
- Weinstein, N., & Ryan, R. M. (2010). When helping helps: An examination of motivational constructs underlying prosocial behavior and their influence on well-being for the helper and recipient. *Journal of Personality and Social Psychology, 98*, 2, 222-224.
- White, R. W. (1959). Motivation reconsidered: The concept of competence. *Psychological Review, 66*, 297-333.
- Williams, G. C., McGregor, H. A., Sharp, D., Levesque, C., Kouides, R. W., Ryan, R. M., & Deci, E. L. (2006). Testing a self-determination theory intervention for motivating tobacco cessation: Supporting autonomy and competence in a clinical trial. *Health Psychology, 25*, 91-101.
- Wilson, E.O., (1984). *Biophilia*. Harvard University Press, Cambridge, MA.