I-D Compensation: Exploring the Relations among Mindfulness, A Close Brush with Death, and Our Hunter-Gatherer Heritage

Leonard L. Martin

Matthew S. Sanders

Amey Kulkarni

Wyatt Anderson

Randall Edwards

Chongjun Jun

Whitney Heppner

I-D Compensation: Exploring the Relations among Mindfulness, A Close Brush with Death, and Our Hunter-Gatherer Heritage

What would the world look like if mindfulness were the rule rather than the exception? In some ways, we already know the answer to that question. Research has shown that when people behave mindfully, they are more creative (Langer & Eisenkraft, 2009), healthier (Langer, 2009), and more liked by their interaction partners (Langer, Cohen, & Djikic, 2012). They learn better (Langer, Hatem, & Howell, 1989), exhibit less stereotyping (Djikic, Langer, & Stapleton, 2008), display greater self-acceptance (Carson & Langer, 2006), and even live longer (Alexander, Langer, and colleagues, 1989).

But what if more people were more mindful more of the time? What if mindfulness were the default state rather than a state that needed to be induced with special manipulations? The outcome, we believe, would be surprisingly ordinary -- but in a good way. It might parallel the effects some people display after a close brush with death. There would be no great "transport to bliss," just a "paradoxical combination of total familiarity with surprised satisfaction" (Wren-Lewis, 1994, p. 110).

In this chapter, we suggest that the connections between mindfulness and a close brush with death are more than skin deep. The two phenomena produce similar effects because they initiate the same general process. They induce people to decrease their automatic reliance on preconceptions, especially those introjected from their culture.

In making this point, we describe some features of mindfulness as well as some aftereffects of a close brush with death. We suggest that in both cases people shed cultural introjects and guide their behavior using a more authentic self. Next, we raise the possibility that this self is the one that evolved when our ancestors were living in immediate return hunters-

gatherer societies. To make this case, we discuss aspects of immediate return hunter-gatherer societies and contrast them with aspects of modern, complex delayed return societies. We conclude that compared to the immediate return ones, modern societies foster mindlessness. They do so, in part, by encouraging people to interpret the world through a fixed set of justifying stories (e.g., just world beliefs). When people drop these stories, they stop living in their head and guide their behavior more authentically. In short, they become mindful. We end the chapter by tying these ideas together using I-D compensation theory (Martin, 1999). Finally, we describe what the world would look like if mindfulness were the rule rather than the exception.

As a prelude, we can say that if mindfulness were the rule, the world would look more like an immediate return hunter-gatherer world. That does not mean people would be living in the forest and foraging for food. It means they would live in the present, adjust their knowledge in response to subtle changes in their environment, and behave more authentically. Moreover, the effects would be synergistic. Increasing mindfulness would foster an immediate return lifestyle, which, in turn, would foster greater mindfulness, and so on. Before we make these points, though, we need to say what we mean by mindfulness.

Defining Mindfulness and Mindlessness

Mindfulness can be defined as the process of actively making new distinctions about objects in one's awareness (Langer & Moldoveanu, 2000). It can be contrasted with mindlessness in which people adhere to entrenched categorizations from the past. When people are mindful, they adjust their cognitive processing strategies to match their current conditions, they stay attuned to the present, and they are more open to new information. They are also more sensitive to subtle variations in their environment, they display more cognitive flexibility, and they are more able to apply new categories as needed (Brown & Langer, 1990).

When people are mindless, on the other hand, they adhere rigidly to a single perspective and are less responsive to subtle changes in their environment. Moreover, the single perspective they use may be a pre-existing one they accepted more or less unquestioningly from their culture and that they apply more or less unthinkingly. As a result, people may perform well-practiced behaviors in a very competent way yet make a mistake because they performed the behavior in the wrong place at the wrong time (Langer, Blank, & Chanowitz, 1978; Reason, 1984).

The distinction between mindfulness and mindlessness can be seen quite clearly in the real life example of a man who lived in England most of his life but who had occasion to drive a car in the United States. He had no problem driving on the right hand side of the road once he was behind the wheel and driving. His problem was getting in the car. He repeatedly found himself trying to enter from the passenger side, which, of course, is the driver's side in an English car. Why was he better at driving than entering?

While he was driving, he was paying attention. He was guiding his behavior on the basis of the ongoing changes in his environment. In a word, he was mindful. As he was getting in the car, however, he was preoccupied with where he was going, whether he had everything he needed, what he was going to say to his co-worker when he got to his office, and so on. So, he enacted automatically the same routine he always enacted when getting ready to drive his car. He opened the door in his usual way, which turned out to be the wrong thing for him to do in his current situation. In a word, he was mindless.

Of course, living mindfully does more than confer simple performance benefits. It facilitates the expression of broad psychological variables such as authenticity (Carson & Langer, 2006). When people live mindfully, they engage more fully with the environment, pay attention to what they are doing, and respond in real time to subtle, changing aspects in the

environment. In addition, because they focus on what they are doing, they do not become especially concerned with the impression they are making on others. They do not worry about winning the approval of others or enhancing their self-esteem. Instead, they guide their behavior on the basis of their personal values in relation to their current context.

When people live mindlessly, on the other hand, they guide their behavior using pre-existing scripts and categories and discount their genuine feelings and values. This may lead them to may approach situations from a single perspective and miss other ways they could have responded to the situation. To make matters worse, it is likely that they adopted their single perspective without checking to see if it was valid for them as individuals or for the situation in which they currently found themselves (Chanowitz & Langer, 1981). As a result, they may base their behavior on information that seems universally valid but that was not valid for them as individuals or for their current situation.

Consider how the mismatch between received cultural knowledge and authentic knowledge can create a problem in the domain of happiness. When people are asked, "How happy are you?" they can answer using either of two general strategies. They can assess their actual feelings or they can consult what appear to be relevant cultural theories. Such theories specify the conditions people need to satisfy in order to happy. People are happy, for example, if they drive the right car, marry the right spouse, or get the right job. In this way, people can judge their happiness simply by seeing if their current situation matches the specified situation. No introspection is needed.

To see if people based their happiness judgments on their feelings or the cultural theories, Csikszentmihalyi and LeFevre (1989) contacted people at various times in various contexts and asked them how happy they were. One generally recognized cultural theory suggests that people

are happier when they engage in leisure activity rather than work. Although this theory may be true for some people some of the time, it is not true for all people all of the time. So, if people based their happiness judgments on this theory, then they may say they are happier at leisure even if they experience more positive feelings at work.

Consistent with this observation, Csikszentmihalyi and LeFevre (1989) found that some participants reported experiencing more engagement and flow at work than at leisure. When asked if they would rather be doing something else, however, these same people answered "Yes" more often at work than at leisure. What did they want to be doing instead of working? They wanted to be engaged in leisure activities. Thus, they based their happiness judgments on the cultural theory rather than their actual feelings. This is a form of mindlessness. They internalized a cultural theory and applied it in a non-thinking way to a situation in which the theory did not apply.

In sum, there are many advantages to being mindful. It can help people stay attuned to the present, update their knowledge, and adjust their cognitive strategies to reflect changes in the demands of their environment. It can also help them avoid acting on the basis of entrenched categorizations or inaccurate cultural givens. It might even help them be happy. Despite these benefits, people are often mindless. Why? Do people have some inherent weakness that leads them to be mindlessness? Is there some factor in our society that fosters mindlessness? Before we can say what the world would be like if mindfulness were the rule, we need to know what it would take to make mindfulness the rule.

In general, we can say that mindfulness manipulations produce their positive effects by inducing people to consider multiple perspectives. They reduce people's automatic application of fixed conceptions. So, if we could get people to stop applying their preconceptions in an

automatic way, then we could make them more mindful. If we could get them to do this permanently, then we could induce them to be mindful in a permanent way. That's when mindfulness would be the rule rather than the exception.

Is there a way to induce people permanently to stop the automatic application of their pre-conceptions? We believe there is. We could give them a close brush with death.

Death and Mindfulness

For some people, almost dying is the best thing that ever happened to them (Hablitzel, 2006). What makes it so good? It leads people to trivialize the trivial and stop taking life for granted. In short, it makes people mindful. A woman dying of cancer explained it this way, "When you're dying, you're stripped of everything that's important to society – money, image – so all you have left is that honesty. It takes so much energy to pretend when you can use that energy for other things. ... all that crap just flies off of you; it just sort of comes off you like layers of skin. All of a sudden, you're staring from scratch, like when you were born. . . . I believe in myself now. I never had that before. And I am not afraid of being who I am." (Kuhl, 2001, p. 230).

Thus, a close brush with death, like mindfulness, can lead people to shed aspects of their culture, adopt multiple perspectives, and behave in a more authentic way. It can also lead people to:

1. Display an enhanced sense of living in the present
2. Drop values introjected from their culture
3. Feel free to refuse doing things they do not want to do
4. Experience high levels of self-forgiveness
5. Care more about other people but care less what other people think of them

6. Display less interest in material things, fame, and money
7. Display a greater appreciation for nature and the ordinary things in life (e.g., a sunset, hugging a child)
8. Express low levels of self-aggrandizement
9. Keep daily frustrations and trivialities from bogging them down
10. Stop taking life for granted

Although these features are not exactly those associated with mindfulness, there is considerable overlap. Both phenomena lead people to shed aspects of their culture, focus more on the present, pay less attention to what other people think of them, adjust their cognitive strategies in response to subtle changes in their situation, and live more authentically (For a review, see Flynn, 1984; Grey, 1985; Greyson, 1983; Kinnier, Tribbensee, Rose, & Vaugh, 2001; Martin, Campbell, & Henry, 2005 Noyes, 1982-83; Ring, 1984). Further evidence of a commonality between mindfulness and a close brush with death can be seen in the process through which the two produce their effects.

To understand this process, we have to consider that not all close brushes with death lead to psychological growth. Two conditions are needed. Both can be seen in the story of a woman (known to one of the authors) who survived a head-on car crash. She was driving on the highway when another car travelling in the opposite direction suddenly swerved over the median and headed straight for her car. Everything happened so fast that there was little the woman could do. There was no time to hit the brakes. No time to steer away. In fact, the woman had time for only two thoughts: "This is it" and "It's OK."

As counterintuitive as this reaction may be, it is not unusual. It has been observed in many people who faced their imminent death -- but then survived (Greyson & Stevenson, 1980;

Noyes, 1980; Roberts & Owen, 1988). The first feature that seems critical to producing the positive aftereffects is having an absolutely vivid and convincing encounter with death. People have to believe they really are dying. Right here, right now, like this. It is not enough for them simply to contemplate their mortality or to realize they could have been on a flight that went down. They need to believe with absolute certainty they are about to die.

The second critical ingredient seems to arise naturally out of the first. It is acceptance (Noyes, 1980). When people have a vivid, immediate confrontation with death, they let go. They stop trying to force their preconceptions onto reality -- probably because they can't. Death is too big of a reality. People know they are going to die no matter what they think. So, they put less faith in their thoughts. They shed their preconceptions, and this seems to be the ingredient that is most directly responsible for the positive aftereffects of a close brush with death (Cole & Pargament, 1999; Noyes, 1980).

We can get further insight into this letting go process from a passage in Chesterton's novel *The Ball and the Cross*. The protagonist in the novel has a close brush with death and then expresses the following insight. "At the highest crisis of some incurable anguish there will suddenly fall upon the man the stillness of an insane contentment. It is not hope, for hope is broken and romantic and concerned with the future; this is complete and of the present. It is not faith for faith by its very nature is fierce; and as it were at once doubtful and defiant; but this is simply a satisfaction. It is not knowledge, for intellect seems to have no particular part in it. Nor is it (as the modern idiots would certainly say it is) a mere numbness or negative paralysis of the power of grief. It is not negative in the least: it is as positive as good news" (p. 10).

What is it about a close brush with death that can make it as positive as good news and that produces features similar to mindfulness? According to Wren-Lewis (1994), a close brush

with death turns off our hyperactive survival mechanism. He suggested, more precisely, that each of us possesses a set of operations, a hypothetical survival mechanism, that works to maintain our personal well-being. This mechanism motivates us to watch our weight, get our papers published, ask for a raise, and so on. In this way, the mechanism can be useful. It helps us survive and thrive.

According to Wren-Lewis, however, the mechanism has become over-active. It has led each of us to become myopically focused on our own agenda and to perceive the world as hostile and competitive rather than as benign and cooperative. It makes us miss the peace and beauty available in each moment. A close brush with death can break that spell because it turns the survival mechanism off. In the words of Wren-Lewis (2006), "when the brain approaches the point of complete shutdown, the conditioned patterns of thought, feeling, and perception lose their grip on consciousness" (p. 91).

The catch, of course, is that when the brush with death is merely a close one, the person is not dead. But it's too late. The survival mechanism has been turned off. So, when people return from the brink, the goals, standards, and expectations they introjected mindlessly from their culture are no longer there to color their perceptions. This allows people to adapt to reality as it is and stop trying to fit reality into their preconceptions.

But why a close brush with death? Couldn't other traumas produce similar effects? Although it is true that other traumas can produce psychological growth (Tedeschi & Calhoun, 2004), they seem to do so through a rebuilding process rather than a letting go process. As Wren-Lewis (2004) noted, most traumas shatter benign or optimistic world assumptions (Janoff-Bulman, 1992). For example, people generally assume that the world is safe, that they will not become a victim of crime, or that they will not succumb to a debilitating disease, at least not

while they are young. Traumatic life events, however, challenge these assumptions. When this happens, people need to rebuild their assumptions. If they do so in a way that reflects their changed situation, then they may experience psychological growth (Tedeschi & Calhoun, 2004).

A close brush with death, however, is different. It does not challenge positive assumptions. It challenges negative ones. People may spend a lot of time worrying about life, including lots of little things that may seem important to them at the time but really aren't. Have I lost enough weight? Will I get that next paper published? Why wasn't I invited to that party? A close brush with death invalidates those concerns. They don't matter when you are dead.

What happens, though, if you come close to death but don't die? Wouldn't the concerns become important again? It seems not. It seems a close brush with death can lead people to see their concerns for what they are, and always have been in the grand scheme of things: barren pursuits (Martin & Kleiber, 2005). And once people see things this way, there is no going back. When people return from the brink, they drop their preconceptions and open up to "an essentially benign inner reality underlying a world which had hitherto been superficially perceived as hostile, competitive and 'red in tooth and claw'" (Wren-Lewis, 2006, p. 91-92).

A woman dying from cancer described it this way:

> There’s less fear in my life because I’m not in the loop of stress that most of us get into from working and worrying about money and the kids, rather than just being with what is. It’s about acceptance rather than still struggling to make it your way. All the ego stuff, all the future fear-- ‘God, did I gain weight? Am I turning gray?’ Most of those things aren't important any more. It's like really downsizing to the essence. It wasn't things that I wanted. It was a way of life. And so I systematically set out to live it. A lot of the programming from my youth

was still there before the illness, like ‘You need to be successful.’ You're in this prison. I've switched to what's important." (Branfman, 1996).

Thus, a close brush with death, like mindfulness, can lead people to drop the fixed set of goals, standards, and expectations they may have introjected from their culture and that were contributing negatively to their well-being (Flynn, 1982; Ring, 1984; Sutherland, 1992). By dropping these pre-conceptions, people can open up to greater acceptance of themselves and see more options in the world around them. As Kuhl (2001) put it, when people cannot escape death "they embrace life, their own life. The ‘prescription’ of how to live given by family, culture, profession, religion, or friends loses its grasp” (p. 227).

Thus, a close brush with death can lead people to let go of harmful and inaccurate pre-conceptions and guide their behavior on the basis of their current experience. This, in turn, allows them to focus on the present, show less concern with making an impression on others, and live more authentically. These are features associated with mindfulness. Moreover, people may display these features for years after a close brush with death (Furn, 1987).

In sum, mindfulness manipulations and a close brush with death may produce their effects in a similar way. They reduce the likelihood that people automatically apply their preconceptions. Although this observation helps explain why mindfulness and a close brush with death produce similar effects, it leaves other questions unanswered. For example, why does the shedding of cultural preconceptions lead people to experience greater openness and authenticity? Why doesn't it leave them confused or motivate them to defend or restore their preconceptions? How do people guide their behavior once they have dropped their cultural preconceptions? Are there alternate goals, standards, and values they adopt? If so, what are they and where to they

come from? Fortunately, we are not the first to ask questions like these. So, there are places we can look for answers.

The Drift Back to the Self

Personality researchers have known for years that stable individual differences do not always reveal themselves in behavior. Sometimes, extraverts act like introverts and introverts act like extraverts. So, researchers have tried to outline the variables that lead people to guide their behavior on the basis of their stable dispositions (Kenrick & Funder, 1988).

Caspi and Moffitt (1993) proposed that people rely on their stable individual differences when (a) they are in a situation in which the old guides do not apply, (b) the new guides are not yet known, and (c) they experience a press to behave. In short, people turn to idiosyncratic guides when they feel a need to respond but have no external guides for their behavior.

Turner (1969) developed a similar, though broader, model based on his investigations of rituals in small-scale societies. He suggested that these rituals could be divided into three stages. In the first, or pre-ritual, stage, the initiates guide their behavior on the basis of the cultural knowledge they picked up over the course of their life. The second stage comprises the actual ritual, which is designed intentionally to render the initiates' pre-ritual conceptions inapplicable. The initiates may be threatened, for example, yet not be allowed to turn to their parents for support. In the third stage, the post-ritual stage, the initiates are provided with the knowledge they need to become fully integrated members of their society.

The stage most relevant to mindfulness is the middle stage, the stage in which the initiates drop their old knowledge but have not yet acquired the new knowledge. According to Turner, in this stage the initiates are stripped of their cultural roles and identities and have only

their basic human predispositions to guide their behavior. So, they behave in a way that is common to all humans and which exists apart from culture.

Is it possible that mindfulness manipulations, including a close brush with death, work in an analogous way? They invalidate people's pre-existing guides but leave intact the press to act. With the preexisting guides gone and no readily available external substitute, people act in accord with some basic aspect of their nature. If this hypothesis is correct, then we would see some overlap between the features associated with mindfulness or a close brush with death and the features of basic human nature. Of course, no one can say for sure what basic human nature is, but we can take some educated guesses. We propose that basic human nature encompasses features humans evolved as they lived in immediate return hunter-gatherer societies (Martin, 1999).

Our Immediate return Heritage

For at least 95% of its existence, our species lived as hunter-gatherers. More precisely, they lived as immediate return hunter-gatherers. Hunters-and-gatherers are people who obtain less than 5% of their subsistence from farming and/or herding (Murdock, 1981). Immediate return hunter-gatherers are those for whom this percent goes down to zero or close to it. As Marlowe (2002) put it “Even if foragers [immediate return hunter-gatherers] are not living fossils, surely they are the best living models of what life was like prior to agriculture” (p. 249). By studying these societies, we may learn something about the world for which our biology was adapted (Martin & Shirk, 2008). This may be the world to which we return when we shed the preconceptions we've adopted from our modern, complex delayed return society. This is the world we might see if mindfulness were the rule. So, what are the features of immediate return societies?

Changing Company and Changing Places

One of the more distinctive features of immediate return societies is their fluidity. These societies are made up of small family groups (containing about 25 people) that exist as part of a larger population spread out over the landscape. There is much movement of individuals in and out of the local groups. In fact, the membership of these groups may change on a daily basis. In addition, the whole group may move every few weeks (Woodburn, 1979) and when it does, the decision is based on a series of ad hoc individual decisions, not on the decision of a leader or on consensus reached in discussion (Turnbull, 1962).

Bird-David (1994) analogized immediate return societies to drops of oil floating on water. When the drops come together, they coalesce into a larger drop. This larger drop can split easily into smaller ones, however, which may coalesce to form other larger drops. Likewise, members of immediate return societies "perpetually coalesce with, and depart from, each other" (Bird-David, 1994, p. 597). The formal term is fission and fusion. Members of immediate return societies vote with their feet. They can choose which relationships to pursue and which to abandon. They do so through visits, meal sharing, cooperative work, and even through the positioning of the openings of their huts. Thus, they have greater latitude to direct their lives authentically rather than in accordance with formal cultural orthodox.

These features led Ingold (1980) to define immediate return hunter gatherer societies as "a loose and unbounded association of individuals or families, each related to one or more others through immediate kinship, occupying a particular locale and its environs. It is the outcome of a series of choices about where to go, and with whom to affiliate, in order to make the best of environmental resources which are never quite the same, in abundance or distribution, from one season or year to the next" (Ingold, p. 403; see also Winterhalder & Smith, 1992). Unlike the

delayed return societies in which most people now live, in immediate return societies there are no sanctioned authorities, no binding contracts, and a weaker top down influence of formal cultural conventions. Such societies may foster authenticity.

Relational Autonomy

Although members of immediate return societies move frequently, they do not see this movement as a burden. They see it as a gift. It allows them to maintain their autonomy. It is important to note, though, that their autonomy is not the isolated individualism often seen in modern Western cultures. It is much more relational. It grows out of a history of continuing involvement with others in contexts of joint, practical activity. Each member of the society acts with the other members in mind, and can assume that the others will do the same (Bird-David, 1992; Ingold, 1980). Each actively avoids infringing on the autonomy of the others and can be confident the other members will actively avoid infringing on his or her autonomy.

One way immediate return societies foster autonomy is through the intentional avoidance of long-term commitments. The members know such commitments entail dominance and inequality. The first party holds power over the second party until the latter delivers on his or her end of the deal. By avoiding such commitments, members of immediate return societies experience considerable freedom to guide their lives on the basis of their personal values and interests.

Heaps of Randomly Associated Elements

In a society that values autonomy as highly as immediate return societies do, there can be no single, correct version of events. After all, if the interpretation of one person is considered correct, then a different interpretation held by another person must be incorrect. Members of

immediate return societies actively avoid this inequality. Thus, people are free to explore their own interpretation of events.

At the individual level, the absence of formalized rights and wrongs fosters autonomy and exploration. At the cultural level, it fosters instability (Brunton, 1989). Immediate return societies have few verbalized rules of behavior, their rituals are highly variable (and may even be dispensed with altogether), and there is no single, clear idea of a moral order. Their knowledge is generally idiosyncratic and gained by personal experience rather than handed down by others. As one immediate return hunter-gatherer put it, “None of us are quite sure of anything except of who and where we are at that particular moment” (Brunton, 1989, p. 677). In these societies, there are fewer top-down pressures to constrain people's interpretations of events.

Although there is less pressure to conform to generally agreed upon conventions in immediate return societies, the behavior of people in these societies is not random. As Turnbull (1962) noted, "In the forest life appears to be free and easy, happy-go-lucky, with a certain amount of perpetual disorder as a result. But in fact, behind all the disorder there *is* order and reason; reaching everywhere is the firm, controlling hand of the forest itself. **. . .** The forest, the great provider, is the one standard by which all deeds and thoughts are judged; it is the chief, the lawgiver, the leader, and the final arbitrator" (p. 126). In this way, behavior in immediate return societies displays yet another feature of mindfulness. It is guided by rules but not determined by them (Carson & Langer, 2004).

Living in the Present

In immediate return societies, people receive relatively immediate feedback with regard to their efforts (Barnard & Woodburn, 1988; Meillassoux, 1973). This does not mean they obtain immediate gratification. It means they know within a relatively a short time whether their efforts

have paid off. They will know within a few hours, for example, if their hunt has been successful. If it has, then they can return to the camp to eat. If it has not, then they have time to search for an alternative food source.

This immediacy allows members of immediate return societies to maintain an extreme focus on the present. They "are bound to the momentary present, scarcely ever striking out new lines for themselves, never forecasting the distant future, and seldom making provisions for the near future. Capable of anticipating its future needs only for a very brief span. Accumulation is difficult, long-term planning is impossible" (Forde & Douglas,1956, p. 332). Members of immediate return societies seem to live by the motto "If it is not here and now what does it matter where (or when) it is?" (Turnbull, 1983, p. 122). This immediacy fosters flexibility and adaptation to subtle changes in the environment, which are also features of mindfulness.

In sum, life in an immediate return society involves frequent changes in group membership and location, less pressure to conform, no sanctioned authorities, no binding commitments, and little in the way of stable, agreed upon cultural orthodox. As a result, members of these societies experience high levels of autonomy, learning that is idiosyncratic, and a strong tendency to live in the present. We believe these features foster mindfulness and we believe they are harder to come by in delayed return societies. We propose, therefore, that our ancestral societies fostered mindfulness, whereas our modern, complex, delayed return societies do not. That is why the shedding of delayed return cultural values can foster mindfulness.

The Problem with Delayed Return Societies

Humans made the transition from hunter-gatherer life to a more sedentary life in densely populated communities over the course of thousands of years. For simplicity sake, though, anthropologists point to 10,000 years ago as the time when things changed. It is around this time

that humans were forced into domesticating plants and animals in a widespread and irreversible way.

It was also around this time that humans began domesticating themselves (Harris, 1989). By settling down, humans changed their societies in ways that had significant effects on their psychology -- not all of them good. Diamond (1987) calls the transition to agriculture is the worst mistake in the history of the human race. It is "a catastrophe from which we have never fully recovered" (p. 64). The problem, in short, is that the transition resulted in the development of delayed return societies and these societies often demand from their members behavior that is discordant with their immediate return nature (Martin, 1999).

For example, in modern, complex societies, people are often required to exert immediate effort for delayed, uncertain payoffs (Martin, 1999; Woodburn, 1979). They may plant crops, work for a paycheck, or save for retirement. In each case, people work toward an outcome they will not receive for days, weeks, months, or even years -- if then. This input-outcome disjunction may lead people to experience a great deal of insecurity, possibly over long stretches of time. As a result, people may look for assurance that their efforts are going to pay off. The evidence suggests that people do this in two general ways (both of which have implications for mindfulness)

The first way is structural or societal. People developed formal cultural mechanisms that demand the long-term cooperation of specific members of society (Martin, 1999; Woodburn, 1979). These mechanisms include laws and binding contracts as well as agents designed to enforce those laws and contracts such as courts and police. When members of delayed return societies enter into formal binding relationships, each member is expected to uphold his or her

end of the deal. If they fail to do so, then not only is there no payoff, there are also negative social consequences.

When people take a job, for example, they may sign a contract indicating that they will be paid at the end of each month. This contract gives them assurance that their efforts throughout the month will eventually produce their desired outcome, namely the paycheck. If the paycheck does not arrive, then the workers can take the employer to court for breach of contract and hope to obtain their compensation that way. In short, the members of delayed return societies intentionally subject themselves to binding social arrangements in an effort to assure themselves that their efforts will pay off. These arrangements may give people the reassurance they seek, but they do so at a cost. They heighten conformity and obedience and reduce autonomy as well as self-exploration. In other words, they reduce the opportunity for flexible, mindful, authentic behavior.

Barry, Child, and Bacon (1959; Zern, 1983) provided some evidence for this connection in their comparisons of hunting and fishing societies (i.e., immediate return) with herding and farming societies (i.e., delayed return). They noted that in hunting and fishing societies, each day's food comes from that day's catch and there is a relatively short delay between a person's efforts and feedback regarding the effectiveness of those efforts. Moreover, if a person's initial efforts meet with failure, then he or she could switch to Plan B to acquire their desired resources. This flexibility means that deviations from the established routine are not necessarily feared. So, the child rearing practices in immediate return societies emphasize personal initiative, exploration, and individual skill. They can try different things. This is a feature associated with mindfulness.

In farming and herding societies, on the other hand, there are established rules that prescribed the best-known way to acquire resources. With farming, for example, people must plow the fields, plant the seeds, water the fields, monitor them for weeds and pests, harvest the grain, and store it safely -- and each of these steps must be done in the right way at the right time. If all goes well, then the chances are good the farmers will reap the benefits of their effort. If all does not go well, however, then there is no time to start over, and the consequences for the entire society may be severe, widespread, and long-term (e.g., hunger or starvation). It is not surprising, therefore, that in delayed return societies the child-rearing practices emphasize obedience, conformity, the acceptance of culturally given values, and the fixed application of pre-existing rules. These are features associated with mindlessness.

The second strategy people in delayed return societies use to assure themselves that their efforts will payoff is intrapersonal. They adopt justifying stories such as the Protestant work ethic and just world beliefs. When people work toward a college degree, for example, they exert effort for years before they can even begin to consider obtaining their sought after outcome -- and even then the outcome may not be obtained. If it is not, then they wasted years of their life. To assure themselves that they are not wasting their time, people may try to convince themselves that the world is just and that their efforts will pay off. So, when there is a conflict between their reassuring stories and reality, people often maintain the stories at the expense of reality (e.g., they blame an innocent victim). This is a form of mindlessness.

Hafer (2000) showed that a delayed return orientation can heighten this kind of reality distortion. She had participants describe either their long-term plans or the university courses they were currently taking. Then, she had them watch an interview in which a student described how she had contracted a sexually transmitted disease. Some participants heard that the student

contracted the disease by accident (innocent victim), whereas others heard that she contracted the disease through her own negligence (blameworthy victim).

Hafer found that participants who believed in a just world and who had focused on their long-terms goals were more likely than those who focused on their courses to blame the innocent victim. It would be pointless for these participants to pursue their long-term goals if the world was not just. Yet, the existence of an innocent victim suggests that the world is not just. So, they distorted that reality. They construed the innocent victim as blameworthy. In short, the delayed return orientation (i.e., focus on long-term goals) led the participants to maintain a fixed interpretation of events even when that interpretation did not map on to reality. This is a form of mindlessness.

In sum, members of delayed return societies have established social and cognitive mechanisms designed to assure them that their efforts will payoff. Although these mechanisms may perform their function, they also foster a high level of conformity and encourage the application of preexisting knowledge structures. In other words, they foster mindlessness. It is not surprising, therefore, that manipulations that induce people to drop aspects of these societies lead people to be mindful. They shift people away from the misplaced pressures of a delayed return society toward the immediacy and authenticity of their immediate return self.

I-D Compensation Theory

So far, we've distinguished between mindfulness and mindlessness and noted that a close brush with death can produce features similar to those of mindfulness. We also noted that some of these features are seen more often in immediate return societies than in delayed return societies. We raised the possibility that these features may be especially compatible with our basic human nature and noted that situational ambiguity can induce people to turn toward that

nature as a guide for their behavior. Therefore, when people drop aspects of their delayed return society, as with a mindfulness manipulation, they guide their behavior using their basic human nature, which reveals itself in a focus on the present, flexible updating of knowledge structures, and a reduced reliance on received orthodox. These are the features of a mindful society.

Now, we can integrate these general observations into a coherent story using I-D compensation theory (Martin, 1999). It is useful to start by unpacking the name of the theory. The *I* stands for the immediate return nature of human beings, the *D* stands for the delayed return nature of the societies in which most people live now, and *compensation* stands for the steps people take to reconcile their immediate return nature with the constraints placed on them by their delayed return societies. The general idea is that when people experience discordance between their immediate return biology and their delayed culture, they take steps to reconcile the two.

More specifically, the theory starts with the assumption that humans possess a set of sensitivities and predispositions that helped their distant ancestors survive and reproduce in the context of immediate return societies. This is one reason people function optimally when they live in small temporal windows, receive frequent feedback that they are progressing toward their goals, and behave in accord with their personal goals and values. These are the features toward which our biology is attuned.

People may experience psychological difficulties, however, when they live in delayed return societies. These societies can lead people to behave in ways that are not compatible with their immediate return biology. There are incompatibilities, for example, in our diet (Cordain, Boyd Eaton and colleagues, 2005), economics (Gowdy, 1999), and population pressure (Cohen, 1985). The main incompatibility on which I-D compensation theory focuses is that between

people's efforts and the feedback they receive with regard to those efforts.

Humans function optimally when they receive frequent reliable feedback that they are progressing toward their goals (Carver & Scheier, 1990; Csikszentmihalyi, 1990). This feedback may have characterized the immediate return societies of our ancestral past but the feedback can be harder to come by in modern delayed return societies. In modern societies, people often have to engage in immediate effort for delayed, uncertain outcomes. This effort-outcome disjunction can lead people to experience long periods of insecurity. To cope with this insecurity, people developed complex cultural mechanisms such as contracts and agents to enforce them (Cohen, 1985) and justifying stories such as just world beliefs (Martin, 1999). In the context of I-D compensation theory, these coping mechanisms reflect people's attempts to create conditions compatible with their immediate return biology. They are compensations by an immediate return organism trying to thrive in a delayed return world.

Not only are people's compensations associated with justifying stories and reassuring social mechanisms, they may also be associated with rumination, negative affect, and heightened self-focus (Martin & Tesser, 2006). Interestingly, these are the basic ingredients of many phenomena that have been identified by social psychologists (e.g., dissonance, prejudice, defensive self-esteem). So, according to I-D compensation theory, when people adopt an immediate return orientation they may be less susceptible to these phenomena.

Empirical Evidence

One general hypothesis that can be derived from I-D compensation theory is that people experience a greater need to justify their efforts when they are not receiving immediate feedback that their efforts will payoff. When they are receiving this feedback, however, they can focus on the present and experience less need to force their preconceptions onto reality.

We tested this hypothesis by assessing participants' belief in a just word (e.g., I feel that people get what they are entitled to have). Then, we manipulated immediate versus delayed orientation and assessed the extent to which participants blamed an innocent victim for her unfortunate circumstance. We hypothesized that participants in a delayed return orientation would have a greater need for the world to be just and, therefore, a greater need to interpret the innocent victim as not innocent. This is a form of mindlessness because it involves the application of a fixed story that does not really apply to the situation.

To manipulate orientation, we had some participants describe two behaviors they performed merely for the experience of performing the behavior (e.g., playing the guitar for fun), but had others describe two behaviors they performed in order to obtain some separable outcome (e.g., playing the guitar in order to get good enough to join a band). Our manipulation check revealed that this manipulation had its expected result. Participants reported obtaining the sought after outcomes almost immediately in the experience condition, but only weeks later in the separable outcome condition.

From an I-D compensation perspective, therefore, we would expect a higher need for justification in the latter condition, in which participants exerted immediate effort for a delayed, uncertain payoff. The results were consistent with this hypothesis. Participants who believed in a just world and who described behaviors they performed in order to obtain a separable outcome were more likely to blame the innocent victim. In other words, they were more likely to force the story in their head onto the world whether or not the story fit. This is a form of mindlessness.

According to I-D compensation theory, people are not likely to engage in this kind of mindless compensation if they are receiving feedback that they making progress toward their

goals. Perhaps the best way to obtain that feedback is to stay in flow (Csikszentmihalyi, 1990). Flow is the optimal state people experience when their level of skill on a task is high and it matches the high level of challenge posed by the task. When in flow, people focus on the present, experience few off-task thoughts, and display little awareness of their self as an object of evaluation. In many ways, flow leads people to be mindful. As a result, they would experience little need to justify their behavior and little need to blame an innocent victim.

To test this hypothesis, we manipulated challenge and skill and then assessed the blame participants accorded to an innocent victim. To manipulate challenge and skill, we used a computer program that instructed participants to use the cursor to click on small white squares that appeared in random places at random times on the computer screen. For some participants, the squares appeared at an extremely slow rate (skill higher than challenge). For others, they appeared at an extremely fast rate (challenge higher than skill). For the third group, the squares appeared at a moderately fast rate (skill equals challenge). After participants performed this task, they reported how much blame they assigned to an innocent victim for her unfortunate life situation.

The results were consistent with I-D compensation theory. Participants accorded more blame to the innocent victim when either their skill was higher than the challenge or the challenge was higher than their skill. They did not blame the woman when their skill matched their challenge, when they had no need to compensate for a delayed return orientation.

In sum, these studies suggest that people have a greater need for a coherent story and a greater tendency to apply that story at the expense of reality when they are in a delayed return orientation. Thus, a delayed return orientation can foster mindlessness.

When Mindfulness Rules

Now we have enough background to address the main question: What would the world be like if mindfulness was the rule rather than the exception? The answer, in short, is that people would display features associated with mindfulness, a close brush with death, and living in an immediate return way. We discuss each in turn.

As we noted in our introduction, if mindfulness were the rule, then people would be more creative, healthier, and more liked by their interaction partners. They would learn better, exhibit less stereotyping, display greater self-acceptance, and even live longer. They would also reduce their automatic acceptance and application of introjected cultural values, be more sensitive to subtle variations in their environment, and be better able to apply new categories as needed.

According to I-D compensation theory, if mindfulness were the rule, then people would also be less susceptible to a wide array of traditional social psychology phenomena. This is because when people behave mindfully they experience less uncertainty, negative affect, and self-concern. As a result, they would be less likely to display phenomena that have these features as their underlying components. So, if mindfulness were the rule, then people might experience less dissonance, less defensive self-esteem, less blaming of innocent victim, less outgroup derogation, and fewer breakdowns in self-control.

If mindfulness were the rule, then people would also display better coping. They would do this for two reasons. First, mindfulness can facilitate acceptance. Life situations become problems, in part, because they block important goals (Martin & Tesser, 2006). A spinal cord injury, for example, could challenge people's ability to have children, take care of their self, or support their family. One component of successful coping is knowing when to let go of blocked goals (Wrosch, Scheier, Carver, & Schulz, 2003). Smith, Jankovic, Loewenstein, and Ubel (2009), for example, found that people who accepted their colostomies as irreversible were better

adjusted one year after their surgery than people who maintained hope they might improve back to their pre-surgery selves. More generally, in a mindful world, people would shed their fixed conceptions of how life should be and adjust instead to the way it really is.

For more clues regarding what the world would look like if mindlessness were the rule, we can turn to our second source of information: people who have had a close brush with death. As we noted previously, a close brush with death can help people shed introjected cultural values, focus on the present, and experience greater acceptance of the self. Although these changes can be profound, they typically manifest themselves in ordinary ways. As Wren-Lewis (1994) put it:

> The change is a subtle one, in keeping with that sense of absolute ordinariness: I haven't for example become anything like my earlier stereotypes of the mystic or 'enlightened being.' I haven't lost my taste for meat or wine or humor or detective fiction, or good company; I still feel sexual pleasure, I still enjoy being appreciated by others, and my scientific curiosity is as great as ever. In fact all these things seem 'very good' as never before -- but I am no longer bothered to *pursue* any of them, nor much worried when such desires aren't met, since the new consciousness, satisfaction is the basic essence of existence itself, not the result of desire-gratification. So while I still make choices and pursue goals, this has become for me a kind of secondary game, not the focus of living." (p. 111)

So, what would the world look like if people were more mindful? It would look profoundly ordinary. The overall effect of a close brush with death is to wake people up to the present. It makes them more mindful. A woman dying of cancer was clear about this when she attributed her psychological growth to "Mindfulness. Being aware of how I spend each moment

of the day. ... [Ordinarily] We don't see our options." (Branfman, 1996). If mindfulness were the rule, people would see more options in the ways they could interact with the world. They would not be locked into a single perspective.

Wren-Lewis (1994) noted how his close brush with death allowed him to develop alternate interpretations of many of the unpleasant aspects of life including pain and death. "I now experience such a pain in the way nature must surely mean it to be experienced, mainly as a signal of something to be avoided if possible, or other organs not functioning properly. I found that the painful stimulus remains unpleasant precisely so long as I ignore the signal." Regarding death, he wrote, "Although I still intend to avoid it as long as possible in life's secondary game and still mourn the loss of friends, it has in itself a very special kind of beauty, like the dying leaves of autumn, whose splendor we are allowed to see in ordinary consciousness because our minds don't associate it with the ultimate taboo" (p. 114).

Observations like these lead us to believe that if mindfulness were the rule, then people would be less likely to struggle against the world. They would adjust their knowledge to the subtle changes in the world rather than trying to force the world to conform to their preconceptions. As a result, they might come, like Wren-Lewis (1988), to "know exactly why the Bible says that God looked upon the creation and saw that it was good" (p. 115).

Our third source of information for how the world would look if mindfulness were the rule is immediate return societies. According to numerous reports, members of these societies are happy. As Turnbull (1962) noted of the M'buti, an immediate return society in Africa, "They are a people who had found in the forest something that made their life more than just worth living, something that made it, with all its hardships and problems and tragedies, a wonderful thing full of joy and happiness and free of care" (pp. 25–26).

Everett (2008) provided a very similar description of the Pirahãs [pee da HAN], a group in Brazil. He wrote, "the Pirahãs or an unusually happy and contented people" (p. 279). They "showed no evidence of depression, chronic fatigue, extreme anxiety, panic attacks, or other psychological ailments common in many industrialized societies. ... They regularly face dangerous reptiles, mammals, bugs, and other creatures. They live with threats of violence from outsiders who frequently invaded their land. When I am there, with a much easier life than the Pirahãs themselves, I still find there's plenty for me to get worked up about. The thing is, I do get worked up, but they do not. I have never heard a Pirahã say that he or she is worried. In fact, so far as I can tell, the Pirahãs have no word for *worry* in their language." (p. 278).

One way in which an immediate return orientation fosters happiness is by inducing people to focus on the present. This immediate temporal focus may help people avoid phenomena that can undermine psychological well-being, such as rumination (Martin & Tesser, 2006). As Everett (2006) observed "The Pirahãs share some of our concerns, of course, since many of our concerns derive from our biology, independent of our culture ... But they live most of their lives outside these concerns because they have independently discovered the usefulness of living one day at a time. The Pirahãs simply make the immediate their focus of concentration, and thereby, at a single stroke, they eliminate huge sources of worry, fear, and despair that plague so many of us in Western societies." (Everett, 2008, p. 273). It seems likely that if mindfulness were the rule, then people would focus more on the present and display less worry, fear, and despair.

Of course, focusing on the present may work well for people in immediate return societies, but it may seem more difficult to accomplish in a delayed return society and may even seem counterproductive. This is not necessarily the case, however. People can attain long-term

goals by focusing on the sub-components, by focusing on what they are doing at the moment. They can live in the present without living for the present. In fact, doing so seems to enhance long-term persistence and the ability to delay gratification (Stock & Cervone, 1990). This is because each small success operates as feedback that people are making progress toward their long-term goals (Frey & Preston, 1980). In this way, people can turn a delayed return situation into an immediate return one (Martin, 1999).

In fact, from an I-D compensation perspective, this would be the main advantage of living in a world in which mindfulness was the rule. That world would be more compatible with our immediate return biology. If mindfulness were the rule, people would thrive even when they faced pressures that otherwise would be considered delayed return (e.g., pursuing long-term goals).

Where to From Here?

Does the picture we have painted seem too good to be true? Could widespread mindfulness really give rise to a world in which people were more creative, coped better, and experienced greater happiness? We believe it could.

Keep in mind that there is evidence for most of our conclusions and when we did speculate we did not deviate far from that evidence. Remember also that the immediate return lifestyle is one that served our species well for the first 95% of its existence. It may very well be the lifestyle with which our biology is most compatible. In fact, we consider it is our birthright. It comes naturally to us once the constraints of our delayed return societies are removed. If this conjecture is true, then the real marvel is not that mindfulness can lead people to experience the world in the ways we have described. "The real marvel seems to be that the world isn't

experienced like this by everyone all the time, since this is, quite simply, the way things are" (Wren-Lewis, 1994, p. 110).

So, what would the world look like if people were more mindful? In many ways it would look like the world of 100,000 thousand years ago. That does not mean we would be living in the forest and foraging for food. It means we would be paying attention, seeing more options in the ways we could interpret the world, adjusting our behavior in response to subtle changes in the environment, and behaving authentically rather than through fixed cultural knowledge we may have introjected mindlessly.

And the good news is that we don't have to undergo anything as dramatic as a close brush with death to develop an immediate return orientation. It can come naturally to us if we let it. Wren-Lewis (1994) captured this sentiment well when he said "What I suspect we need is not any kind of path or discipline, but a collection of tricks or devices for catching the Dark at the corner of the eye, as it were, and learning how to spot its just-waiting-to-be-seen presence, combined with strategies for stopping the hyperactive survival-programs from immediately explaining the perception away" (p. 114). Perhaps with the help of a few mindfulness exercises (Langer & Piper, 1987), we could all learn to let go and look at the world and say, "It is good."

References

Alexander, C., Langer, E. J., Newman, R., Chandler, H., & Davies, J. (1989). Aging, mindfulness and meditation. *Journal of Personality and Social Psychology, 57*, 950–964.

Barry, H., Child, I. L., & Bacon, M. K. (1959). Child relation of child training to subsistence economy. *American Anthropologist, 61*, 51-63.

Bird-David, N. (1992). Beyond "The Original Affluent society": A culturalist reformulation. *Current Anthropology, 33*, 115-137.

Barnard, A. & Woodburn, J. (1988). Property, power and ideology in hunter-gathering societies: An introduction. In T. Ingold, D. Riches, and Woodburn (Eds.), *Hunters and Gatherers* (Vol 2, pp. 4-31). Oxford: Berg Publishers.

Branfman, F. (1996). How a terminal diagnosis saved Jackie McEntee's life. Retrieved Nov 20, 2012 from *trulyalive.org* (url: http://www.trulyalive.org/individuals/jackie_mcentee.htm).

Breland, K. & Breland, M. (1961). The misbehavior of organisms. *American Psychologist, 16*, 681-684.

Brown, J. & Langer, E. (1990). Mindfulness and intelligence: A comparison. *Educational Psychologist, 25*, Special issue: Intelligence and intelligence testing, 305-335.

Brunton, R. (1989). The cultural instability of egalitarian societies. *Man, 24*, 673-681.

Burch, E. S., Jr. (1994). The future of hunter-gatherer research. In E. S. Burch, Jr. & L. J. Ellanna (Eds.), *Key issues in hunter-gatherer research* (pp. 441-503). Oxford: Berg.

Burpee, L. C. & Langer, E. J. (2005). Mindfulness and marital satisfaction. *Journal of Adult Development, 12*, 43-51.

Calhoun, L.G., & Tedeschi, R.G. (1999). *Facilitating posttraumatic growth: A clinician's guide*.

Mahwah, NJ: Lawrence Erlbaum Associates.

Carson, S. H. & Langer, E. J. (2006). Mindfulness and self-acceptance. *Journal of Rational-Emotive & Cognitive Behavior Therapy, 24*, 29-43.

Carver, C. S. & Scheier, M. F. (1990). Origins and functions of positive and negative Affect: A control-process view. *Psychological Review, 97*, 19-35.

Caspi, A. & Moffitt, T. E. (1993). When do individual differences matter? A paradoxical theory of personality coherence. *Psychological Inquiry, 4*, 247-271.

Chanowitz, B. & Langer, E. J. (1981). Premature cognitive commitment. *Journal of Personality and Social Psychology, 41*, 1051-1063.

Chesterton, G. K. (2009). *The Ball and the Cross*. Lawrence, KS: Digireads.com Publishing.

Clark, K. (1987). Response to "Adjustment and the near-death experience." *Journal of Near-Death Studies, 6,* 20-23.

Cohen, M. N. (1985). prehistoric hunter-gatherers: The meaning of social complexity. In T. D. Price & J. A. Brown (Eds.) *Prehistoric Hunter-Gatherers* (pp. 99-117).

Cole, B. S. & Pargament, K. I. (1999). Spiritual surrender: A paradoxical path to control. In W. R. Miller (Ed.), *Integrating spirituality into treatment: Resources for practitioners* (pp. 179-198). Washington, D.C.: American Psychological Association.

Cordain, L., Boyd Eaton, S., Sebastian, A., Mann, N., Lindeberg, S., Watkins, B. A. O'Keefe, J. H., & Brand-Miller, J. (2005). Origins and evolution of the Western diet: health implications for the 21st century. *American Journal of Clinical Nutrition, 81*, 341-354.

Csikszentmihalyi, M. (1990). *Flow: The Psychology of Optimal Experience.* New York: HarperCollins.

Csikszentmihalyi, M. & LeFevre J. D. (1989). Optimal experience in work and leisure. *Journal of Personality and Social Psychology, 56*, 815-22.

Diener, E., Emmons, R.A., Larsen, R.J., & Griffen, S. (1985). The satisfaction with life scale. *Journal of Personality Assessment, 49*, 71–75.

Diamond, J. (1987). The worst mistake in the history of the human race. *Discover Magazine, May*, 64-66.

Djikic, M., Langer, E. J. & Stapleton, S. F. (2008). Reducing stereotyping through mindfulness: Effects on automatic stereotype-activated behaviors. *Journal of Adult Development, 15*, 106-111.

Everett, D. L. (2008). *Don't sleep, there are snakes*. New York: Pantheon Books.

Frey, P. S., & Preston, J. (1980). Children's delay of gratification as a function of task contingency and the reward-related contents of task. *Journal of Social Psychology, 111*, 281–291.

Flynn, C. P. (1984). Meanings and implications of near-death experiencer transformations. In B. Greyson & C. P. Flynn (Eds.), *The near-death experience: Problems, prospects, perspectives* (pp. 278-289). Springfield, IL: Charles C. Thomas, Publisher.

Forde, D. & Douglas, M. (1956). Primitive economics. In H. L. Shapiro (Ed.), *Man, Culture, and Society* (pp. 330-344). New York: Oxford University Press.

Furn, B. G. (1987) Adjustment and the near-death experience: A conceptual and therapeutic model. *Journal of Near-Death Studies, 6*, 4-19.

Gowdy, J. (1999). Hunter-gatherers and the mythology of the market. (pp. 391-398). In R. B. Lee & R. Daly (Eds.), *The Cambridge Encyclopedia of Hunters and Gatherers.* Cambridge: The Cambridge University Press.

Grey, M. (1985). *Return from death: An exploration of the near-death experience*. London:

Arkana.

Greyson, B. (1983). Near-death experiences and personal values, *American Journal of Psychiatry*, *140*, 618-620.

Greyson, B. (1992). Reduced death threat in near-death experiencers. *Death Studies, 16*, 523-536.

Greyson, B. (1996). "NDEs and satisfaction with life": Reply. *Journal of Near Death Studies, 14,* 218-219.

Greyson B. & Stevenson, I. (1980). The phenomenology of near-death experiences. *American Journal of Psychiatry, 137,* 1193-1196.

Hablitzel, W. E. (2006). *Dying was the best thing that ever happened to me.* Austin, TX: Greenleaf Books.

Hafer, C. L. (2000). Investment in long-term goals and commitment to just means drive the need to believe in a just world. *Personality and Social Psychology Bulletin, 26*, 1059-1073.

Harris, M. (1989). *Our Kind: Who We Are, Where We Came From, Where We Are Going*. New York: HaperCollins.

Horne, P. J. & Lowe, C. F. (1993). Determinants of human performance on concurrent schedules. *Journal of the Experimental Analysis of Behavior, 59*, 29-60.

Ingold, T. (1980). *The Appropriation of Nature: Essays on Human Ecology and Social Relations*. Iowa City: University of Iowa Press.

Janoff-Bulman, R. (1992). *Shattered assumptions: Towards a new psychology of trauma.* New York : Free Press.

Kenrick, D. T., & Funder, D. C. (1988). Profiting from controversy: Lessons from the person-situation debate. *American Psychologist, 43*, 23-34.

Kinnier, R. R., Tribbensee, N. E., Rose, C. A., & Vaugh, S. M. 2001). In the final analysis: More wisdom from people who have faced death. *Journal of Counseling and Development, 79*, 171-177.

Kuhl, D. (2002). *What dying people want: Practical wisdom for the end of life*. New York: Public Affairs.

Langer, E. J. (2009). *Counterclockwise: Mindful health and the power of possibility*. New York, NY: Ballantine Books.

Langer, E. J., Blank, A., & Chanowitz, B. (1978). The mindlessness of ostensibly thoughtful action: The role of 'placebic' information in interpersonal interaction. *Journal of Personality and Social Psychology, 36*, 635-642.

Langer, E. J., Beck, P., Janoff-Bulman, R., & Timko, C. (1984). An exploration of relationships among mindfulness, longevity, and senility. *Academic Psychology Bulletin, 6*, 211-226.

Langer, E. J., Djikic, M. & Cohen, M. (2012). Mindfulness as a psychological attractor: The effect on children. *Journal of Applied Social Psychology*, *42*, 1114–1122.

Langer, E. & Eisenkraft, N. T. (2009). Orchestral performance and the footprint of mindfulness. *Psychology of Music, 37*, 125-136.

Langer, E., Hatem, M. J., & Howell, M. J. (1989). Conditional teaching and mindful learning: The role of uncertainty in education. *Creativity Research Journal, 2*, 139-150.

Langer, E. J., & Moldoveanu, M. (2000). The construct of mindfulness. *Journal of Social Issues, 56*, 1–9.

Langer, E. J. & Piper, A. I. (1987). The prevention of mindlessness. Journal of Personality and Social Psychology, 53, 280-287.

Marlowe, F. (2002). Why the Hadza are still hunter-gatherers. In S. Kent (Ed.), *Ethnicity, Hunter-*

gatherers, and the "Other": Association or Assimilation in Africa (pp. 247-275). Washington, D. C.: Smithsonian Institution Press.

Martin, L. L. (1999). I-D compensation theory: Some implications of trying to satisfy immediate-return needs in a delayed-return culture. *Psychological Inquiry, 10*, 195-208.

Martin, L. L., Campbell, W. K., & Henry, C. D. (2005). The roar of awakening: Mortality acknowledgment as a call to authentic living. In J. Greenberg, S. L. Koole, & T. Pyszczynski (Eds.). *Handbook of Experimental Existential Psychology* (pp. 431-448). New York, NY, US: Guilford Press, 2004.

Martin, L. L. & Kleiber, D. A. (2005). Letting go of the negative: Psychological growth from a close brush with death. *Traumatology, 11*, 221-232.

Martin, L. L. & Shirk, S. (2008). Immediate return societies: What can they tell us about the self and social relationships in our society? In J. V. Wood & A. Tesser (Eds.), *The Self and Social Relationships* (pp. 161-182). New York, NY, US: Psychology Press.

Martin, L. L. & Tesser, A. (2006). Extending the goal progress theory of rumination: Goal re-evaluation and growth. In L. J. Sanna & E. C. Chang (Eds.), *Judgments Over Time: The interplay of Thoughts, Feelings, and Behaviors* (pp. 145-162). New York: Oxford University Press.

Meillassoux, C. (1973). On the mode of production of the hunting band. In P. Alexandre (Ed.) *French Perspectives in African Studies* (pp. 187-203). Oxford: Oxford University Press for the International African Institute.

Murdock, G. P. (1981). *Atlas of World Cultures*. Pittsburgh: University of Pittsburgh Press.

Noyes, R. (1980). Attitude change following near-death experiences. *Psychiatry, 43*, 234-242.

Noyes, R., Jr. (1982-83). The human experience of death, or what can we learn from near-death

experiences? *Omega, 13*, 251-259.

Park, C. L., Cohen, L. H., & Murch, R. L. (1996) Assessment and prediction of stress-related growth. *Journal of Personality, 64*, 71-105.

Reason, J. (1984). The psychopathology of everyday slips. *The Sciences, Sep/Oct*, 45-48.

Ring, K. (1984). *Heading toward Omega: In search of the meaning of near death experience.* New York: William Morrow and Company, Inc.

Roberts, G. A., & Owen, J. H. (1988). The near-death experience. *British Journal of Psychiatry, 153,* 607-617.

Smith, D. M., Jankovic, A., Loewenstein, G., & Ubel P. A. (2009). Happily hopeless: Adaptation to a permanent, but not to a temporary, disability. *Health Psychology, 28*, 787–791.

Steger, M. F., Frazier, P., Oishi, S., & Kaler, M. (2006). The Meaning in Life Questionnaire: Assessing the presence of and search for meaning in life. *Journal of Counseling Psychology, 53*, 80–93.

Steger, M. F., Oishi, S., & Kesebir, S. (2011). Is a life without meaning satisfying? The moderating role of the search for meaning in satisfaction with life judgments. *The Journal of Positive Psychology, 6*, 173-180.

Stock, J. & Cervone, D. (1990). Proximal goal-setting and self-regulatory processes. *Cognitive Therapy and Research, 14*, 483-498.

Sutherland, C. (1992). *Transformed by the Light*. Sydney: Random House Australia.

Tedeschi, R. G.& Calhoun, L. G. (2004). Posttraumatic growth: Conceptual foundations and empirical evidence. *Psychological Inquiry*, *15*, 1-18.

Tedeschi, R. G., Park, C. L., & Calhoun, L. G.(1998). *Posttraumatic growth: Positive changes in the aftermath of crisis.* Mahwah, NJ: Lawrence Erlbaum Associates, Inc. Publishers.

Turnbull, C. M. (1962). *The Forest People*. New York: Simon & Schuster.

Turnbull, C. M. (1983). *The Mbuti Pygmies: change and adaptation*. New York: Holt, Rinehart Winston.

Turner, V. (1969). The Ritual Process: Structure and Anti-Structure. New York: Aldine deGruyter.

Winterhalder, B. & Douglas K. (2006). Behavioral ecology and the transition from hunting and gathering to agriculture. In D. Kennett and B. Winterhalder (Eds.), *Behavioral Ecology and the Transition to Agriculture* (pp. 1-21). Berkeley: University of California Press

Winterhalder, B. & Smith, E. A. (1992). Evolutionary ecology and the social sciences. In E. A. Smith & B. Winterhalder, (Eds.), *Evolutionary Ecology and Human Behavior* (pp. 3-23). New York: Aldine de Gruyter.

Woodburn, J. C. (1979). Minimal politics: The political organization of the Hadza of North Tanzania. In W. A. Shack & P. S. Cohen (Eds.) *Politics in leadership: A comparative perspective* (pp. 224-246). Oxford: Clarendon Press.

Woodburn, J. (1988). African hunter-gatherer social organization: Is it best understood as a product of encapsulation? In T. Ingold, D. Riches, & J. Woodburn (Eds.), *Hunters and Gatherers 1: History, Evolution and Social Change.* Oxford: Berg Publishers Limited.

Wren-Lewis, J. (1988). The darkness of God: A personal report on consciousness transformation through an encounter with death. *Journal of Humanistic Psychology, 28,* 105-122.

Wren-Lewis, J. (1994). Aftereffects of near-death experiences: A survival mechanism hypothesis. *Journal of Transpersonal Psychology, 26*, 107-115.

Wren-Lewis, J. (2004). The implications of Near-Death Experiences (NDES) for understanding posttraumatic growth. *Psychological Inquiry, 15,* 90-92.

Wrosch, C., Scheier, M. F., Carver, C. S., & Schulz, R. (2003). The importance of goal disengagement

in adaptive self-regulation: When giving up is beneficial. *Self and Identity, 2*, 1-20.

Zern, D. S. (1983). The relationship of certain group-oriented and individualistically oriented child-rearing dimensions to cultural complexity in a cross-cultural sample. *Genetic Psychology Monographs, 108*, 3-20.