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TARGET ARTICLE

I–D Compensation Theory: Some Implications of Trying to Satisfy Immediate-Return Needs in a Delayed-Return Culture

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According to I–D compensation theory, the occurrence of several social psychological phenomena (e.g., ego-defense, terror management) is moderated by the status of a person's relationship with the environment. More specifically, the theory proposes that individuals function optimally when they receive frequent feedback that they are progressing toward their goals and that their efforts will pay off. When individuals do not receive this feedback, they increase their reliance on mental processes such as simulation and problem solving. Although reliance on these processes may help individuals return to progress toward their goals, it also makes individuals especially vulnerable to the effects of various social psychological motives (e.g., ego-defense, terror management). From this perspective, certain phenomena thought to reflect basic motivations may actually be the product of context-dependent person–environment interactions.

In their efforts to bring order to the vast range of social behaviors in which humans engage, a number of researchers have proposed the existence of very general motives. For example, researchers have suggested that individuals are motivated to maintain a favorable view of themselves (Tesser & Cornell, 1991), avoid social exclusion (Leary, Haupt, Strausser, & Chokel, 1998), escape the self (Baumeister, 1991), and reduce the anxiety brought on by awareness of their own death (Greenberg, Pyszczynski, & Solomon, 1997). By reference to such motives, researchers can categorize as similar phenomena that might otherwise seem very dissimilar. For example, the false consensus effect and basking in reflected glory may appear to be very different from one another. Yet, there is evidence that individuals display each of these phenomena in an effort to buffer themselves from death-related anxiety (Greenberg et al., 1997).

In this article, I explore the possibility that the effects of several general social psychological motives are moderated by the operation of a broader, perhaps more basic, system. This system does not reflect the operation of a higher order motive of which the others are in service. Rather, it is a system that governs the status of the person–environment relation (e.g., Csikszentmihalyi, 1990; Wicklund, 1986), and it might best be thought of as a kind of social psychological immune system. Just as a person exposed to a virus may become infected only when his or her immune system is weak, so it is that a person exposed to variables central to one of the general social psychological motives may be most likely to display the effects of that motive only when he or she is not in the appropriate relationship with the environment.

The nature of this social psychological immune system is laid out in the form of I–D compensation theory. In brief, the theory proposes that individuals function optimally when they receive frequent feedback that they are progressing toward their goals (Csikszentmihalyi, 1990; Wicklund, 1986) and that their efforts will pay off (Seta & Seta, 1992). To use the terms of the theory, individuals function optimally when they are satisfying their immediate-return needs (the *I* in I–D compensation). When individuals are not satisfying these needs, they increase their reliance on mental processes such as simulation and problem solving (Martin & Tesser, 1996; Roese & Olson, 1995; Taylor, Pham, Rivkin, & Armor, 1998), or, to use the terms of the theory, individuals increase their reliance on delayed-return abilities (the *D* in I–D compensation). The function of these abilities is to help individuals move back toward satisfaction of their immediate-return needs (the *compensation* in I–D compensation). According to I–D compensation theory, it is when individuals are having difficulty satisfying their immediate-return needs that they become

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especially susceptible to the effects of various social psychological motives.

Note that I–D compensation theory does not proceed from a single content-based motive such as fear of death (Greenberg et al., 1997) or fear of social exclusion (Leary et al., 1998). It assumes instead that people attempt to balance simultaneously the satisfaction of multiple goals (Carver & Scheier, 1981; Deci & Ryan, 1985; Sedikides & Strube, 1997). Because of this, the theory's assumptions deal not with specific content but with processes that are presumably central to goal pursuit in general (for related conceptualizations, see Csikszentmihalyi, 1990; Wicklund, 1986).

In laying out the rationale for I–D compensation theory, I discuss the distinction between two cultural systems: immediate return and delayed return (Woodburn, 1982a). Then, I discuss the transition of human culture from predominantly immediate return to predominantly delayed return, and I note some social psychological implications of this transition. Next, I summarize I–D compensation theory, and I discuss some findings that are congruent with the theory's central assumptions. Finally, I discuss data that were collected specifically to test hypotheses derived from I–D compensation theory, and I discuss implications of the theory for several current views of social motivation.

Immediate-Return and Delayed-Return Systems

Most individuals today live in a culture that is different from that in which humans first evolved. Specifically, most individuals today live in permanent, high-density settlements that subsist on agriculture, pastoralism, or both (Feit, 1994; Testart, 1982; Woodburn, 1979, 1982b, 1988). For the first 90% (or more) of its existence, however, our species lived in small groups of closely related individuals who subsisted as nomadic, nonstoring hunters and gatherers (Lee & DeVore, 1968; Maryanski & Turner, 1992; Sahlins, 1972). Not surprisingly, the social forces operating within these two cultures are very different, and an understanding of these differences might help us to understand current social motivation. Fortunately, some key differences between the two cultures have been delineated by Woodburn (1982a) in his distinction between immediate-return and delayed-return systems.

According to Woodburn (1982a; see also Feit, 1994; Testart, 1982), delayed-return systems are the kind of cultural system in which most people currently live. They are composed of ordered, differentiated relationships through which crucial goods and services are transmitted. For example, the farmer plants the corn, the merchant acts as the go-between, and the customer buys the corn. Such systems can survive only as long as binding commitments and dependencies are maintained among the participants in the system. For example, if the farmer devotes months to growing the corn, then the customers better live up to their end of the bargain and buy the corn. Conversely, if the customers depend on the farmer's corn for their subsistence, then the farmer better produce the corn. Also, in delayed-return systems individuals are accorded rights over valued assets that represent a return for labor applied over time. Thus, individuals may reason "I cleared the land, I plowed it, and I sowed it. So, the land and whatever comes out at harvest time is mine." Finally, individuals in delayed-return systems are largely oriented toward the past and the future rather than the present. The farmer, for example, may wonder "Did I plant enough corn last month? When harvest time comes, will I be able to bring in enough to get me through the winter?"

Immediate-return systems, on the other hand, are seen only among certain types of hunters and gatherers: the nomadic, nonstoring type. In other words, although immediate-return systems exist only among hunters and gatherers, not all hunters and gatherers live in immediate-return systems. In immediate-return systems, individuals use labor to attain food and other resources for relatively immediate consumption. For example, they go out gathering, find what they are looking for, collect it, prepare it, and eat it the same day or very shortly thereafter. Individuals in these systems also show a minimum of long-term investment in artifacts and social relations, and they tend to live in the phenomenal present. They take what they need when they need it, and see surplus goods and long-term exchange relationships as burdens. Also, in immediate-return systems, individuals place a strong emphasis on sharing within an ad hoc local community. For example, everyone has free access to the spoils of the hunt regardless of their relationship to the hunter or their contribution to the hunt. According to Woodburn (1982a), the overarching feature that characterizes an immediate-return system is that its members actively avoid the accumulation of assets and the dependencies that such accumulation tends to create.

Although it is possible to find advantages and disadvantages in each system depending on the criteria one uses, it is useful, for my purposes here, to point out one particular advantage of the immediate-return system. Humans evolved in such a system (Lee & DeVore, 1968; Maryanski & Turner, 1992; Sahlins, 1972). This raises the possibility that life in today's delayed-return cultures may be asking humans to rely on abilities that were used differently or at least not to the same extent in our evolutionary past (Maryanski & Turner, 1992). Consider, for example, a day in the life in each system.

In an immediate-return system, individuals live in small, temporary camps containing usually one or two dozen closely related individuals. There is constant movement in and out while a camp remains at

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one site, and when the site is changed, the residents may either move together or split up. Thus, the camps tend to have an ad hoc feel to them. When the individuals do interact, it is as equals, and their equal status does not have to be validated. It is asserted as an automatic entitlement. As Woodburn (1982a) put it, "There are no casualties of the principle of equality … none whose moral worth is destroyed by poor economic performance or lack of personal competitiveness" (p. 446). Ironically, one of the few ways to lose esteem in immediate-return systems is through selfish behavior and self-aggrandizement (Wiessner & Schiefenhoevel, 1996). This may be, in part, because in immediate-return systems most important resources are easily attainable, and those that are not (e.g., meat) are equally and readily shared. This means that there is no need for individuals to worry if they do not personally obtain sufficient resources; other individuals will help out. In social psychology terms, immediate-return systems are composed of communal rather than exchange relationships. The immediate-return lifestyle also allows individuals to live in the phenomenal present and to receive almost immediate feedback regarding the efficacy of their efforts. Their hunting and gathering, for example, is composed of a series of discontinuous undertakings of relatively short duration (e.g., hours) that are independent of one another and in which the outcome is known immediately at the end of each venture (Meillassoux, 1973).

Compare this with life in a delayed-return system. One particularly clear example is attaining a PhD. Although not everyone in a delayed-return culture pursues a goal as elaborately structured as this one, the general features of this pursuit are similar to those of most pursuits in a delayed-return culture. To obtain a PhD, individuals have to undergo years of preparation (i.e., schooling), during which time they exert immediate effort for an outcome that is both delayed and uncertain. They also find themselves during this time immersed in a series of long-term binding commitments, most notably with their advisors, and they must undergo a series of critical evaluations (e.g., classes, proposal meetings) by relative strangers. Failure to perform up to standards during these evaluations can lead to exclusion from the group (i.e., one is not granted a PhD). The primary consequence of obtaining a favorable evaluation, on the other hand, is the opportunity to move on to new uncertainties, evaluations, and delayed feedback. Will I get a job? Will it be in a place that I like? Will I be able to attain tenure? Will my students evaluate me favorably? Will my data come out? Will my manuscripts be accepted for publication? In short, pursuit of an academic lifestyle (like most pursuits in a delayed-return system) requires individuals to cope with long-term binding commitments to specific individuals, repeated evaluations of their worth by relative strangers, and immediate effort for delayed and uncertain outcomes.

Because humans evolved in the context of an immediate-return system, their current life in a delayed-return culture may be forcing them to face social pressures that are different or at least more extensive than those they faced in the past. This does not mean that humans are unable to cope with these pressures. In fact, by Darwinian standards (e.g., population growth, successful communities in almost all geographic regions), our species is doing quite well. This success, however, may have come at a price. Experiences such as automatic social acceptance and frequent feedback regarding goal progress may be more easily obtained in an immediate-return system than in a delayed-return system. According to I–D compensation theory, it is the relative absence of these experiences and the subsequent attempts to obtain them through prolonged reliance on delayed-return abilities that make individuals especially susceptible to the effects of many social psychological motives.

I–D Compensation Theory

The theory starts with the assumption that humans possess a set of sensitivities and predispositions that helped their distant ancestors survive and reproduce in an immediate-return cultural system. At least some of these sensitivities and predispositions are reflected in the tendency of individuals to function optimally when they are receiving frequent feedback that they are making progress toward their goals and that their efforts will pay off. Humans, however, have continued to thrive even after switching to an agricultural and pastoral lifestyle. This means that humans have the ability to thrive in a delayed-return system. Despite this ability, there may be important experiences (e.g., present focus, automatic social acceptance, frequent feedback regarding goal progress) that are generally harder to obtain in delayed-return systems than in immediate-return systems. Anyone who works for a monthly paycheck, for example, or who goes to school for 20 years to earn a degree is exerting immediate effort for a delayed (and possibly uncertain) return. Anyone employed by a long-standing organization (e.g., a university, IBM, K-Mart) or who has committed to a marriage "until death do us part" is likely to be sacrificing some of his or her personal desires to the wants and needs of the others in the organization or relationship. Because of the uncertain, delayed outcomes inherent in these kinds of situations, individuals may find themselves searching for evidence that they are in fact making progress toward their goals and that their efforts will indeed pay off. This search may involve processes such as rumination, problem solving, mental simulation, and an increase in the perceived value of stimuli

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that could facilitate a return to goal progress. These are the so-called delayed-return abilities. Individuals use these abilities to transform delayed-return situations into immediate-return ones. More specifically, these abilities can provide individuals with (a) frequent feedback that they are making progress toward their goals, (b) enjoyment concurrent with their efforts, and (c) a generalized expectancy of success such as self-efficacy or optimism. When individuals are unable to obtain this information, they experience feelings of uncertainty and lack of control, and this, in turn, heightens their susceptibility to the effects of various social psychological motives.

What the Theory Is Not

In developing the logic of I–D compensation theory, I referred to differences between immediate-return and delayed-return cultural systems. It should be noted, however, that I–D compensation is not so much a theory of cultural differences as it is a theory of individual processes. After all, there is no guarantee that one's immediate-return needs will be satisfied in an immediate-return system, and it is not a given that these needs will be frustrated in a delayed-return system. One's culture may have a general facilitating or debilitating effect, but the most proximate determinant of an individual's satisfaction of his or her immediate-return needs is the individual's current life situation.

It is also important to note that I–D compensation theory does not advocate a return to some idealized "noble savage" state (Rousseau, 1994). In other words, the theory does not assume that immediate-return systems are inherently better than delayed-return ones. There are advantages and disadvantages to each depending on the criteria one uses. The point is that individuals function optimally when they receive certain kinds of feedback (Csikszentmihalyi, 1990; Wicklund, 1986). Although life as a nomadic, nonstoring hunter–gatherer might facilitate the obtainment of this feedback, it is also possible to obtain such feedback in a delayed-return culture. Doing so, however, can demand greater use of one's delayed-return skills, and the cost of this may be a heightened susceptibility to the effects of various social psychological motives.

It is also important to keep in mind that I–D compensation theory is not based on a kind of Freudian pleasure principle. Its postulate that individuals are motivated to receive frequent feedback regarding their goal progress is not synonymous with the postulate that individuals are motivated to obtain immediate gratification of their desires. In fact, if individuals obtain the former, then they are less in need of the latter. Frey and Preston (1980), for example, gave children a choice between an immediate, lesser reward or a delayed, more desirable reward and then measured how long the children held out before opting for the lesser reward. Some children were asked merely to sit and wait for the delayed reward, some were allowed to perform a distractor task unrelated to the delayed reward, and some were asked to perform the same task to attain the delayed reward. Not surprisingly, children asked merely to sit and wait opted quickly for the immediate, lesser reward. Those given an unrelated distractor task were able to hold out longer. The highest delay of gratification, however, was seen among children allowed to work toward obtaining the delayed reward.

In I–D compensation terms, this study demonstrates the successful operation of delayed-return abilities. When children obtained evidence that they were making progress toward their goal, they effectively turned a delayed-return situation (no reward) into an immediate-return one (signs of progress toward the reward). As a result, they were able to delay gratification and attain a higher value, long-range goal.

Finally, it should be pointed out that I–D compensation theory neither argues against the existence of any of the general social psychological motives that have been proposed nor denies the possibility that there is a genetic component to any of these motives. The theory does assume, however, that one's genes do not mandate one's actions. Genes are if–then rules (Sapolsky, 1997). Their function can be turned on and off by environmental influences. This is why even with identical twins, the probability of one becoming schizophrenic given that the other is schizophrenic is only 50%. Similarly, with regard to motivation, we can assume that individuals have an innate drive to eat without assuming that most of their actions are in the service of that drive. Individuals may be dominated by the drive to eat only when they experience extreme food deprivation. According to I–D compensation theory, it is the same with the social psychological motives. One can assume that individuals have a genetic predisposition toward certain concerns (e.g., self-preservation, social exclusion) without assuming that much of an individual's actions is dominated by those concerns. Such domination will occur only when there is a deprivation. According to I–D compensation theory, this deprivation is the failure to satisfy one's immediate-return needs (e.g., frequent feedback regarding goal progress; confidence in payoff).

In the next section, I briefly discuss some findings in the literature that are consistent with the general assumptions of I–D compensation theory. The point in discussing these findings is not to provide evidence that I–D compensation theory is correct. The point is merely to suggest that the general assumptions are reasonable. After discussing these findings, I move on to discuss some studies designed specifically to test implications of the theory.

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The Extant Literature

Frequent Feedback

According to I–D compensation theory, individuals function optimally when they are receiving frequent feedback indicating that they are progressing toward their goals and that their efforts will pay off. If this assertion is correct, then individuals will experience greater subjective well-being when they receive this kind of feedback than when they do not. There are several lines of work that fit with this assumption. For example, Carver and Scheier (1990) suggested that individuals monitor not only the extent of their discrepancies relative to their goals, but also the direction, velocity, and acceleration of their movement relative to those discrepancies. Actions that reduce a discrepancy give rise to positive affect, whereas actions that increase a discrepancy give rise to negative affect. Moreover, a fast reduction gives rise to greater positive affect, whereas a fast increase gives rise to greater negative affect (Carver & Scheier, 1990; Hsee & Abelson, 1991). In short, individuals find it pleasurable to learn that they are moving quickly toward their goals.

Further evidence that individuals prefer frequent feedback indicating progress toward their goals can be seen in research on task persistence. Numerous studies have shown that the attainment of frequent, intermediate goals enhances individuals' persistence toward long-term goals, their likelihood of attaining those goals, and their self-efficacy (Bandura & Schunk, 1981). Conceptually related findings have come out of research on subjective well-being. Diener, Sandvik, and Pavot (1991), for example, found that the best predictor of a person's happiness is the frequency, not the intensity, with which the person experienced positive affect. Specifically, the more frequently individuals experienced positive affect, the happier they reported being. Also consistent with the frequent feedback assumption is the finding (Emmons, 1992) that individuals with concrete goals (e.g., clear my desk) report greater well-being than individuals with abstract goals (e.g., be more organized). This difference in well-being seems to arise because concrete goals have clearer indicators of progress than do abstract goals and also have a shorter lag time for observing the effects of one's activity on progress toward the goal (Emmons & Kaiser, 1996). Taken together, these findings suggest that the more frequently individuals receive feedback that they are progressing toward their goals, the higher their well-being will be.

Getting Back on Track

According to I–D compensation theory, when individuals do not satisfy their immediate-return needs, they turn to their delayed-return abilities. The function of these abilities is to move individuals back toward goal progress. For example, rumination, which can be instigated by thwarted goal progress, increases the accessibility of thoughts related to the blocked goal (Martin & Tesser, 1996; Martin, Tesser, & McIntosh, 1993). This, in turn, may make it more likely that individuals will find information that is useful to unblocking their goal progress. For example, if a person's computer malfunctions while the person is in the midst of writing an important manuscript, then the person is likely to try everything he or she knows to get the computer functioning again. After realizing that doing so is beyond his or her ability, the person might wonder "What skills would I need to fix the computer? Who would have the skills to help me with this?" At this point, the person might think of a computer-savvy colleague or the department's computer consultant. Thus, goal blockage can cause thoughts of needed skills to come to mind, and this, in turn, can facilitate attainment of those skills. Evidence to this effect was obtained by Wicklund and Braun (1987).

Thwarted goal progress can also lead to increased attraction toward stimuli related to attaining the goal (for a review see Tesser et al., 1996). For example, Cartwright (1942) asked participants to rate various tasks in terms of how attractive the tasks were and in terms of how similar they were to one another. Then, participants performed a subset of these tasks and were allowed to complete some but not others. Finally, participants rerated the attractiveness of each task. Consistent with prior research showing a desire to return to pursue blocked goals, Cartwright found that the attractiveness of the interrupted tasks generally increased, whereas the attractiveness of the completed tasks generally did not. More important for my purposes here, when the attractiveness of the interrupted tasks rose, so did the attractiveness of activities that had been rated as similar to those tasks. The attractiveness of tasks perceived to be different stayed the same. This pattern suggests that individuals are attracted to tasks that share features with an interrupted task because these tasks have substitute value. Performing them can help individuals attain the goal activated by the original blocked activity (Tesser et al., 1996).

In sum, there is an array of evidence from diverse areas consistent with the general spirit of I–D compensation theory. Taken together, this evidence suggests that individuals function optimally when they are in a dynamic relationship with environment (e.g., frequent feedback regarding progress, confidence in payoff) and that when they are not in such a relationship, they take steps to get back into it. These steps include, among other things, increased accessibility of goal-related information, increased value of goal-related stimuli, and an increased motivation to pursue the goal.

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One of the unique features of I–D compensation theory is its hypothesis that failure to satisfy one's immediate-return needs can heighten one's susceptibility to the effects of various social psychological motives. In the remainder of the article, I discuss the implications of this hypothesis for several general social psychological motives (e.g., ego-defense, fear of exclusion). Because the initial empirical work testing this hypothesis was conducted in the context of terror management theory, I address the death anxiety motive first.

Terror Management Theory

According to terror management theory (Greenberg et al., 1997), humans, like all animals, possess a biological instinct toward self-preservation, but humans, unlike other animals, know that they will die. This conflict between the irrepressible wish to live and the undeniable knowledge that one will not continue to live sets the stage for enormous anxiety (i.e., terror)—anxiety so great that were it not buffered in some way it would leave individuals essentially paralyzed, unable to act in their day-to-day lives. The theory further assumes that humans deal with this potentially paralyzing anxiety by attempting to convince themselves that the death of their biological body does not signal the death of everything of value to them. Specifically, each individual is assumed to possess a worldview that spells out ostensibly meaningful roles that he or she can play in an ostensibly orderly social drama. While immersed in these roles, individuals can come to believe that life is not a purposeless biological accident and that death does not represent absolute annihilation of the self.

Of course, playing out these social roles does not, in reality, keep a person from dying. What it does, according to terror management theory, is allow individuals to believe that some valued aspect of themselves will continue, either literally or symbolically, after cessation of their biological body. Literal immortality takes the form of an afterlife (e.g., heaven), whereas symbolic immortality takes the form of extensions of the self (e.g., children, achievements) continuing to exist after the person's biological death. Thus, as Becker (1973) described it, a cultural worldview "is more than merely an outlook on life: it is an immortality formula" (p. 255).

Although terror management theory assumes that the avoidance of death anxiety is a prime motive, the theory does not assume that it is the only motive. There is also a motive governing growth and positive strivings (Greenberg et al., 1997). The theory does suggest, however, that the anxiety motive is primary. After all, how could individuals strive for growth and self-expansion if they are overwhelmed by terror? In summary, terror management theory assumes that death anxiety initiates the development of a buffering system (e.g., culture, self-esteem) and that if this system is doing its job, then individuals can begin to address their growth motives.

I–D Compensation Theory and Mortality Salience Effects

Whereas terror management theory hypothesizes both a growth and a defense motive with the defense motive being primary, I–D compensation theory sees concern with self-defense as growing out of a failure to maintain a dynamic relationship with the environment. So, I–D compensation theory presents a causal order that is the reverse of that in terror management theory. Individuals function optimally when they receive frequent feedback indicating progress toward their goals, and when they do not receive this feedback, individuals take steps to find it. It is during this time that individuals become more susceptible to the effects of various social psychological motives such as defense from death anxiety. Specifically, being reminded during this time that one's life is finite can make salient the imbalance individuals are experiencing between their immediate efforts and their delayed uncertain payoffs. When salient, this imbalance can prompt individuals into assessing whether they have confidence that the payoff will ever occur, whether they are exerting too much immediate effort, whether they are getting enough payoff in the present, and so on. This uncertainty, in turn, can sensitize individuals to information that could help them return to an optimal level of effort and outcome. Thus, to the extent that individuals are sacrificing their immediate-return needs in the service of delayed-return requirements, mortality salience should induce a decrease in effort toward delayed uncertain payoffs and an increase in the attractiveness of information that could help the person return to an optimal level of effort and progress. None of these effects, however, will be observed when individuals are satisfying their immediate-return needs.

In summary, both terror management and I–D compensation assume that individuals are sometimes oriented toward growth and self-expansion and sometimes toward anxiety buffering. The two theories differ, however, in the connection they assume between these two motives. According to terror management, anxiety is an inherent feature of the human condition, and the motive to buffer this anxiety supersedes the growth motive. According to I–D compensation, concern with anxiety becomes central only when individuals fail to satisfy their immediate-return needs. The two theories also differ in their assumptions about the effects of having one's mortality made salient. According to terror management theory, having one's

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mortality made salient causes one to defend his or her worldview, live up to the standards of that worldview, or both. According to I–D compensation theory, mortality salience increases one's urgency to satisfy his or her immediate-return needs (at least to the extent that these needs are not currently being satisfied). Finally, terror management theory assumes that the effects of having one's mortality made salient are mediated by unconscious anxiety, whereas I–D compensation theory assumes that the effects are mediated by feelings of uncertainty and loss of control. So, although the two theories are not mutually exclusive, there are several points at which the two make different predictions. We might be able to discriminate between the processes depicted in the two theories by referring to cultural observations and empirical data.

Cultural Differences in Concern With Self-Perpetuation

According to terror management theory, concern with perpetuation of the self is part of the human condition. It is the inevitable by-product of the universal conflict between the instinct to stay alive and the knowledge that we will die. If this assumption is correct, then in all cultures, all individuals old enough to understand the permanent nature of death should be concerned in some way with perpetuation of the self after death. From an I–D compensation perspective, however, this need not be the case. Although individuals who satisfy their immediate-return needs might not relish the idea of dying, they are also not likely to deal with the unpleasantness of death by trying to perpetuate some aspect of themselves beyond their death. According to I–D compensation theory, concern with self-perpetuation emerges only among individuals who are not satisfying their immediate-return needs. Cross-cultural observations seem to support this latter view.

Concerns with death and the afterlife differ not only across cultures, but also in predictable ways. Specifically, elaboration on death and the afterlife is high in delayed-return systems but is virtually nonexistent in immediate-return systems (Bellah, 1964; Bond, 1992; Woodburn, 1982b). In immediate-return systems, death is seen as a matter of course, and not much is made of it. Beliefs in an afterlife are nonexistent, and there is no intensive search for the reasons and agents of death. When a person dies, he or she is immediately buried in a shallow grave and the grave is neither marked nor visited. The social and spiritual existence of the person ends with the burial of the corpse. It is only in delayed-return systems that we see the development of belief systems that provide explicit rules that govern daily life and that promise an afterlife for living in accordance with those rules (Bellah, 1964; Woodburn, 1982b).

Of course, from a terror management perspective, one might argue that individuals in immediate-return systems are not concerned about an afterlife because they buffer their death anxiety in more symbolic ways (e.g., through their children or permanent cultural contributions). Although this possibility cannot be ruled out entirely, it is also not entirely convincing. Recall that individuals in immediate-return systems produce no permanent cultural artifacts and that their social groups tend to be ad hoc rather than permanent. It is also common practice in these systems to leave behind sick or elderly members knowing full well that these individuals will die. So, there is no evidence that individuals in immediate-return systems place any great value on the idea of permanence, either in this life or afterward. In fact, quite the opposite appears to be true. These individuals prize mobility and living in the present (Meillassoux, 1973; Woodburn, 1982a).

From an I–D compensation perspective, the lack of concern with self-perpetuation seen in immediate-return systems makes perfect sense. Individuals living in these systems are likely to be living in the present and to be receiving frequent feedback that they are progressing toward their goals. With relative satisfaction of their immediate-return needs, concern with self-perpetuation becomes largely irrelevant. If this hypothesis is correct, then a person need not be a nomadic, nonstoring hunter–gatherer to exhibit little concern over self-perpetuation. One need only be satisfying his or her immediate-return needs. More specifically, I–D compensation leads us to three predictions regarding the effects of having one's mortality made salient: (a) Effects will be observed only among individuals who are not satisfying their immediate-return needs, (b) these effects will be mediated by feelings of uncertainty and lack of control, and (c) these effects will reflect themselves in an increased urgency to move into an immediate-return mode of life. In the next section, I report on five studies that tested these hypotheses.

Teasing the Two Apart: The Lab Evidence

Experiment 1: The Immediate-Return Mode as Cause and Effect

The first experiment examined whether mortality salience may be more likely to affect individuals when they are not satisfying their immediate-return needs and whether it induces these individuals to seek out ways to return to an immediate-return mode. We began by asking participants to rate the extent to

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which during the previous 2 weeks they felt in control, had clear goals, were concentrating, and wished they had been doing something other than what they were doing. (The last item was reverse coded and averaged with the other items. Then, during analyses, a median split was performed on this composite measure. The highs were assumed to be satisfying their immediate-return needs, whereas the lows were not.)

After participants rated themselves along these dimensions, they moved on to the typical terror management procedure. Specifically, half of the participants were asked to describe the emotions they experienced while thinking about their own death and to describe what physically happens to them as they die and after they are dead. The remaining participants were asked to describe the emotions they experienced while watching television and to describe what physically happens to them as they watch television and after they have watched television. After writing about death or television, all participants rated a variety of activities that had been normed in terms of the degree to which they were associated with certainty and immediacy of return. For example, participants were asked to rate how much they liked eating in fast food restaurants. Even if participants are not big fans of such restaurants, these restaurants do rate highly in terms of certainty and immediacy of feedback. So, eating in fast food restaurants would be rated more favorably by participants seeking to return to an immediate-return mode than by those not so motivated. Another item asked participants to rate their preference for being paid by the week versus by the month. Obviously, getting paid weekly is more certain and more immediate than getting paid monthly. So, a greater preference for the weekly paycheck relative to the monthly one would reflect a greater desire for an immediate-return mode of life. Thus, if I–D compensation theory is correct, then individuals who wrote about their death would give higher ratings to the immediate-return activities than would individuals who wrote about television, but this should be true only among participants who were not satisfying their immediate-return needs.

This was precisely the pattern obtained. Participants who were satisfying their immediate-return needs showed no differences in their ratings of the activities regardless of whether they had written about death or about television. Participants who were not satisfying their immediate-return needs, on the other hand, reported significantly greater liking for the immediate-return activities after writing about their death than after writing about television. In summary, mortality salience had an effect only on participants who were not satisfying their immediate-return needs, and the effect involved an increased liking for activities associated with certainty and immediacy of feedback.

Experiment 2: The Delayed-Return Mode and Mortality Salience

Experiment 2 was a conceptual replication of Experiment 1 using a different dependent measure and a different measure of the extent to which participants were satisfying their immediate-return needs. The latter was operationalized as the extent to which the participants reported being ruminators or nonruminators (Scott & McIntosh, in press). Compared to nonruminators, ruminators feel out of control in their life (Martin, Chang, & Tesser, 1995; Waenke & Schmid, 1996), feel that they are not making progress toward their goals (Martin et al., 1995), and focus on the past and the future rather than the present (Gohm, Isbell, & Wyer, 1996). To use the terms of the theory, ruminators are more likely than nonruminators to be in a delayed-return mode of life. This means that ruminators will show greater mortality salience effects than nonruminators.

The dependent measure was liking for two movies based on a written synopsis of each. One movie was portrayed as being made in the United States, whereas the other was portrayed as being made in Cuba. In pilot testing, we found that participants rated the U.S. movie as higher in certainty and predictability of payoff than the Cuban movie. So, if mortality salience increases participants' attraction to that which can provide them with feelings of certainty and goal progress (i.e., satisfaction of immediate-return needs), then it would increase participants' relative liking for the U.S. movie. This increase would be seen, however, only among ruminators because these are the participants not satisfying their immediate-return needs (Martin & Tesser, 1996). The results were consistent with this prediction. The mortality salience manipulation increased the ruminators' liking for the U.S. movie relative to the Cuban movie but had absolutely no effect on the nonruminators' liking for the two movies. So, Experiment 2, like Experiment 1, showed that mortality salience can increase attraction toward that which can provide certainty and assured payoff, but it does so only among individuals who are not currently satisfying their immediate-return needs.

Experiment 3: Life or Afterlife?

Both terror management and I–D compensation predict that mortality salience can cause liking for an in-group member to increase relative to liking for an out-group member. According to terror management theory, the increase would reflect individuals' attempts to bolster their worldview. According to I–D compensation theory, the increase would reflect an attempt to satisfy one's immediate-return needs. In Experiment 3, we compared these two mechanisms by having partici-

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pants rate two persons, both of whom were likeable, but one performed behaviors that conferred a sense of cultural immortality, whereas the other performed behaviors that conferred satisfaction of her immediate-return needs. If the increased liking following mortality salience reflects an attempt to assure one's self that he or she will continue in some form beyond death, then participants will increase their liking for the stimulus person who upholds the standards that confer cultural immortality. If the increased liking reflects an attempt to satisfy immediate-return needs, however, then participants will increase their liking for the person who is satisfying her immediate-return needs.

In accordance with the typical terror management paradigm, participants wrote either about their death or about television. Then, following a short distractor task, they indicated their liking for two stimulus persons. One person, the cultural standard bearer, was depicted as studying hard, having a strong sense of patriotism and spirituality, and having a commitment to helping the poor. The other person, the immediate-return satisfier, was depicted as being tired of holding things in and living up to other people's expectations. She had decided to start telling more people what she really thought, and she no longer cared about being overweight. She had also decided to quit school and travel. Participants in a pilot study rated these two stimulus persons as similar to one another in the degree to which their lifestyles provided them with order, meaning, and self-esteem. They also rated the two as equally likable and as equally similar to themselves (i.e., the participants). Participants, however, rated the cultural standard bearer as being significantly more likely than the immediate-return satisfier to make a contribution to society, to do something significant in the cosmic scheme of things, to be remembered after her death for her actions, and to be living her life according to values that would remain important in society after she died. Thus, we created two stimulus persons who were equally likable and equally similar to the participants yet who differed in the extent to which they were satisfying either the cultural standards for immortality or their immediate-return needs.

If mortality salience increases participants' concerns with self-perpetuation, then participants who wrote about their death should increase their liking for the cultural standard bearer, relative to the satisfier of her immediate-return needs. If, on the other hand, mortality salience increases the urgency to satisfy immediate-return needs, then participants who wrote about their death should increase their liking for the immediate-return satisfier relative to the cultural standard bearer. The results were consistent with the I–D compensation predictions. Participants who had written about television indicated equal liking for the two stimulus persons, but participants who had written about their death indicated greater liking for the immediate-return satisfier relative to the cultural standard bearer.

Experiment 4: Uncertainty or Anxiety?

According to I–D compensation theory, mortality salience operates as a wake-up call. It can make individuals wonder if they are getting enough out of life, if there will be a payoff, if they have the ability to obtain what they want, and so on. This questioning is assumed to be associated with feelings of uncertainty and loss of control rather than with anxiety. We tested this hypothesis by asking participants to write either about their death or about television, rate their current feelings on a variety of dimensions, and then indicate their liking for two stimulus persons. This procedure is similar to that used in earlier mortality salience studies, but unlike those studies, participants in this study rated not only feelings such as anxiety and sadness, but also the extent to which they felt uncertain and out of control. According to I–D compensation theory, participants who have had their mortality made salient should experience more uncertainty and lack of control, and these feelings should mediate the relative liking for the stimulus persons.

Two stimulus persons were created using Byrne's (1971) bogus stranger paradigm. Specifically, we assessed each participant's attitudes on a number of issues and then created one stimulus person who agreed with those attitudes at an .80 rate and one who agreed at a .20 rate. Previous research has shown that attitudinal agreement produces increased liking because it is associated with greater feelings of certainty (McGarty, Turner, Oakes, & Haslam, 1993). If mortality salience induces attempts to return to satisfaction of one's immediate-return needs, and if the presence of an agreeing stranger can facilitate that return, then not only will participants generally like the agreer more than the disagreer, but this difference will be greater among participants who are experiencing uncertainty and lack of control—that is, those who had their mortality made salient (for related ideas, see Byrne & Clore, 1967; Russ, Gold, & Stone, 1979).

The results supported this prediction. First, compared to participants who had written about television, those who had written about their death reported more uncertainty and less control; this was true even though the two groups reported equivalent amounts of anxiety and sadness. Second, the difference in liking for the agreeing person relative to the disagreeing person was greater among participants who had their mortality made salient. Finally, when the effects of uncertainty and feelings of control were partialed out, the effect of mortality salience on liking for the stimulus persons was reduced. Thus, the mortality salience paradigm may produce its effects, in large part, by inducing feel-

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ings of uncertainty and lack of control and then providing participants with a way to restore certainty and control.

Experiment 5: Uncertainty and Familiarity

In this experiment, we used a different procedure to explore the role of uncertainty induced by mortality salience. Several studies have shown that repeated exposure to a stimulus can increase one's liking for that stimulus (Moreland & Zajonc, 1976). It also appears that this liking is mediated by implicit feelings of familiarity (Birnbaum & Mellers, 1979; Klinger & Greenwald, 1994). What would happen, therefore, if individuals had their mortality made salient prior to evaluating repeatedly exposed stimuli? If mortality salience induces feelings of uncertainty, then it might cancel out the feelings of familiarity that are responsible for the increased liking of the repeatedly exposed stimuli. In other words, mortality salience might eliminate the repeated exposure effect. This elimination would occur, however, only to the extent that mortality salience was in fact inducing uncertainty, which according to I–D compensation would be primarily among participants who were not satisfying their immediate-return needs.

To test these hypotheses, we presented participants with a series of polygons, exposing participants to some polygons once and to others three times. Following this, participants, as in Experiment 1, rated their feelings of control, their ability to concentrate, the clarity of their goals, and the extent to which they wish they had been doing something else, all relative to the previous 2 weeks of their life. (Also, as in Experiment 1, a median split was used on this measure during analyses to divide participants into high and low in the extent to which they were satisfying their immediate-return needs.) After rating their feelings, participants wrote either about their death or about television, and they indicated their liking for a second set of polygons. In this set, participants rated some polygons that they had seen repeatedly in the first set and they rated some they had never seen before.

The results were consistent with the hypothesis that mortality salience and satisfaction of immediate-return needs can summate to undermine the repeated exposure effect. There was greater liking for the repeated polygons relative to the new ones among all participants except those who had their mortality made salient and were low in satisfaction of their immediate-return needs. These high-uncertainty participants showed equally low liking for the repeated and the new polygons.

Taken together, these studies replicate and extend earlier terror management research. The studies clearly show that making one's mortality salient can have an influence on a range of behaviors. The studies are also consistent with the hypothesis that concern with death and self-perpetuation can be a dominant motive—at least for individuals who are not satisfying their immediate-return needs. The studies extend earlier terror management research, however, by suggesting that mortality salience effects may be mediated by lack of goal progress and by feelings of uncertainty (rather than by unconscious anxiety) and that mortality salience may increase an individual's urgency to satisfy his or her immediate-return needs.

Mortality Salience in the Real World

The findings of our laboratory studies are consistent with observations of individuals who have had close brushes with death in the real world. Following such experiences, individuals consistently display less concern with impressing others, materialism, fame, and money; greater appreciation of nature and the ordinary things of life; and less fear of death (Ring, 1984; Wren-Lewis, 1994). One survivor described the changes as "a basic shift in consciousness whereby life in each moment becomes so vivid that anxiety about future survival, in the body or out of it, simply ceases to be important" (Wren-Lewis, 1994, p. 108). Another said, "I can't tell what happened to me because I don't know, but something happened and I've never been the same since. I never take one minute of my day for granted" (Ring, 1984, p. 99). These shifts away from self-concerns toward a more present-oriented focus are revealed not only in the survivor's self-reports but also in the reports of individuals who knew the survivor before and after the brush with death. The shifts are even evident in individuals who do not interpret their near-death experience as evidence of a life after death and in individuals who know that final death is still in their near future (e.g., terminally ill patients).

One explanation of the lack of self-concern that follows close brushes with death was offered by Wren-Lewis (1994) following his own near-death experience. He proposed that normal human consciousness is blinkered by

> *some kind of hyperactivity of the psychological survival system*. Exactly how or when this originated in the history of our species I have no idea, and at present don't propose to speculate. But the effect of this hyper-defensiveness is to focus individual consciousness so rigidly on the business of securing its own future that the underlying universal consciousness, with its every-present-moment happiness, peace and wonder gets shut out. The only satisfaction allowed into awareness is that which comes from meeting the needs (or supposed needs) of the individual body mind. … Close encounter with death is able to break this whole spell

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because the survival-mechanism gives up at this point. (p. 113)

This view is very similar to that espoused in I–D compensation theory. Unlike Wren-Lewis, however, I–D compensation theory is willing to speculate on the origin of the "hyper-defensiveness" that blinkers normal human consciousness. Specifically, I–D compensation theory suggests that our species moved toward its current high level of concern with self-worth and self-perpetuation as it switched from an immediate-return cultural system to a delayed-return one. One implication of this view is that concern with self-perpetuation is not an inherent feature of human nature but a by-product of life in a delayed-return culture (Bellah, 1964; Bond, 1992; Woodburn, 1982b). The same conclusion can be drawn about other general social psychological motives. I discuss three such motives in the next section.

I–D Compensation and Other Social Psychology Motives

Fear of Social Exclusion

Leary et al. (1998) proposed an integrative position based on the assumption that humans have an innate need to belong to a social group (see also Baumeister & Leary, 1995). This need arose, they suggested, because humans were not capable of surviving on their own in the natural environment in which they evolved. So, through a process of natural selection, only humans who were generally gregarious and who sought to maintain social bonds survived to reproduce. Leary et al. further assumed that, to facilitate the satisfaction of their innate need to belong, humans developed a system (called a *sociometer*) that automatically monitors the reactions of other people for signs of disapproval, rejection, or exclusion directed toward one's self. When individuals detect these signs, they experience low self-esteem. When they detect signs of approval and acceptance, they experience high self-esteem. In this way, individuals are motivated to perform behaviors that provide them with high self-esteem because doing so will decrease the likelihood that they will be ignored, avoided, or rejected by others.

From an I–D compensation perspective, we can ask whether it makes sense to hypothesize an association between an innate need to belong and a heightened concern with performing behaviors to avoid social exclusion. It is logically possible to have one without the other. As noted earlier, contemporary immediate-return hunter–gatherers interact without fear of social exclusion. In fact, the immediate-return systems in which they live do not even possess exclusionary power (Woodburn, 1982a). A telling example of this lack of exclusionary power comes from the Hadza of eastern Tanzania (Ndagala, 1988; Woodburn, 1982a). On occasion, lepers wander into a Hadza camp. Although the Hadza are aware that their leprosy is contagious, the Hadza allow the lepers to roam freely about the camp and even share equally with them any spoils from the hunt, a hunt to which the lepers contributed nothing. They do this because in immediate-return systems individuals are accepted without having to prove their worth, and even in cases in which interaction with certain individuals might not be entirely desirable, the group has no power to exclude these individuals (Ndagala, 1988).

To the extent that humans evolved in a similar immediate-return context (Lee & DeVore, 1968; Sahlins, 1972), then any innate need to belong that may have evolved would be unlikely to have been accompanied by an automatic exclusion detector. Such a detector would have been superfluous. It seems more likely, therefore, that the heightened concern many individuals have regarding their worth in the eyes of others is a by-product of cultural changes within the last 10,000 years. It is only after humans found themselves living in permanent, densely populated settlements involving long-term, binding social commitments that it became necessary to be approved by others to thrive within the group, and it is only in this context that members of a group have the authority and ability to exclude individuals from the group (Bender, 1978, 1988; Hayden, 1994, 1996). To the extent that this is true, it implies that regardless of whether or not humans possess an innate sociometer, individuals will become especially attentive to signs of exclusion only to the extent that they are not living in an immediate-return mode (e.g., receiving frequent signs of goal progress).

Escape From the Self

Baumeister (1991) suggested that although individuals are strongly motivated to possess high self-esteem, they sometimes find it unpleasant to engage in the acts that confer high self-esteem. After all, to attain high self-esteem individuals must have a history of performing well in the appropriate domains (e.g., being attractive, intelligent, and friendly), they must be confident that they can continue to perform well in those domains, and they must be able to conjure up plausible justifications for those times in which they might fail to perform up to the standards. The juggling of these various activities can be an effortful, never-ending task. It is no wonder, therefore, that individuals sometimes wish to escape from such activities, or as Baumeister described it, wish to escape the self. Individuals are assumed to escape the self by focusing on aspects of their behavior that have no implications for their self-worth. For example, instead of making a

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model ship to win a contest, an individual who wishes to escape the self might make a model ship merely for the fun of it. Generally, escape from the self involves a concentration on the specifics of an action, a lack of concern for the evaluative implications of one's actions, and a distortion of the subjective experience of time. Some means of escaping the self include alcohol, drugs, suicide, masochistic activities, and religious practices such as meditation and Sufi dancing.

From an I–D compensation perspective, one can ask two questions about the escape from self phenomenon: Why do individuals get tired of attempting to attain high self-esteem, and from what are individuals really trying to escape? Note first of all that you never hear of individuals getting tired of being in flow or of being competent and autonomous. This raises the possibility that one reason individuals get tired of trying to bolster their self-esteem is that doing so, at least to the extent required by our delayed-return culture, demands overreliance on our delayed-return abilities at the expense of our immediate-return needs. For example, the strong concern with self-aggrandizement seen in delayed-return systems seems to have developed only after our species switched to a permanent, high-density, storing society (Bender, 1978, 1988; Hayden, 1994, 1996). This possibility leads naturally to the answer for the question, From what are people trying to escape? According to Baumeister, the desire to escape the self can be aroused by calamity (e.g., failing a test) or the burden of expectation (e.g., fear of not maintaining a 4.0 grade point average). In considering these causes, it becomes clear that individuals are seeking to escape the implications of their behaviors in the eyes of others. In other words, they are not seeking to escape the self, they are seeking to escape the demands and evaluations of others. Or, if one wishes to maintain the terminology that individuals are attempting to escape the self, then it is the self whose worth is contingent on the evaluations of others (Deci & Ryan, 1995). From an I–D compensation perspective, the activities that have been depicted as an escape from the self actually represent an attempt to return to the self, the true self. Or, more specifically, the activities reflect an attempt to move away from an overemphasis on our delayed-return abilities toward a greater satisfaction of our immediate-return needs.

The Nature of Ego-Defense

A number of theoretical models in social psychology are based on the assumption that individuals wish to maintain positive self-evaluations and will go to great lengths to do so (e.g., Berglas & Jones, 1978; Tajfel & Turner, 1979; Tesser, 1988). I–D compensation agrees with the terror management and sociometer positions that it makes more sense to embed the quest for high self-esteem in a larger theoretical framework than it does to consider the quest to be a free-standing motive. The I–D compensation view differs from the terror management and sociometer views, however, in suggesting that self-esteem is a by-product of individuals' ability to progress toward their goals (e.g., Csikszentmihalyi, 1990).

From this perspective, attempts to maintain self-esteem can be viewed not as defensive acts designed merely to make individuals feel good about themselves, but as more or less reasonable attempts by individuals to return to a dynamic relationship with the environment. For example, in response to a blow to their self-esteem, individuals have been shown to reduce the relevance of the performance domain (Tesser, 1988). This decrease in relevance could be construed as a kind of sour grapes rationalization. In other words, because individuals would have their self-esteem lowered if they failed on a task relevant to their self-definition, they simply transform the task into one that is not relevant to their self-esteem. On the other hand, one could argue that a decrease in domain relevance might be exactly the kind of change one could expect if individuals were attempting to perform optimally. After all, if individuals cannot perform well in a given domain, then they should invest their efforts in other domains. It is just as important to learn when to disengage as it is to learn when to persist (Klinger, 1975).

Consider one more example. Individuals have been shown to reduce their closeness to a person who has outperformed them (Tesser, 1988). In a natural environment, this kind of reduction might lead the competing individuals to spend less time together. This, in turn, could increase the possibility that those who had been outperformed would find themselves among different people, people who might not outperform them. This is a smart move from a goal progress perspective. Similar arguments can be made for each of the other so-called ego-defensive processes (e.g., self-handicapping, external attributions for failure). Each of them allows individuals either to improve their performance in their current domain or to move to goal progress in a possibly more fruitful domain.

Conclusions

In summary, I–D compensation theory leaves the general integrative social motives largely intact. The theory gives us no reason to doubt that individuals are often highly motivated to maintain a positive view of themselves, avoid social exclusion, escape from the self, and seek to buffer themselves from the fear of death. The theory even allows for the possibility that there may be an innate basis for these motives. However, the theory does raise some questions about the function of these motives, the conditions under which

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they are engendered, and the psychological mechanisms that underlie them. According to I–D compensation theory, each of the general social psychological motives serves to return individuals to a dynamic relationship with the environment; each arises when individuals are not satisfying their immediate-return needs; and each may be underlaid, at least in part, by feelings of uncertainty and loss of control.

I–D compensation theory also raises the possibility that (at least hypothetically) individuals can go through life without the general social psychological motives exerting much influence on their behavior. For this to occur, individuals simply need to maintain an immediate-return lifestyle. Unfortunately, this can be difficult to do because most of us today live in cultures that foster a delayed-return lifestyle. However, the good news is that the delayed-return lifestyle is not a fixed feature of human nature. It is a by-product of relatively recent cultural evolution. This means that each of us may be able to structure our own lives in such as way that we receive frequent feedback that we are progressing toward our goals and that our efforts will pay off. If so, then we may be able to make ourselves immune to excessive concerns with self-worth, self-perpetuation, social exclusion, and the like.

Notes

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