

10 'Directed Motivational Currents': Regulating Complex Dynamic Systems through Motivational Surges

Zoltán Dörnyei, Zana Ibrahim and
Christine Muir

Most people will, at some point or other, have come across a curious phenomenon whereby somebody suddenly embarks on a project, invests a great deal of time and energy in it for a period of time and, as a result, often achieves something quite remarkable. Take, for example, an overweight university professor (specialised in motivation), who is coming to terms with the fact that all the time spent sitting in front of his computer, as well as attending delicious business lunches and sumptuous conference dinners, has been causing a very noticeable increase in his waistline, until one day something changes: his friends and family are surprised to see that he has enrolled in a gym, his evening pudding has turned into a single yoghurt, and at conference buffet lunches he does not go back for seconds (and even his first plate contains an uncharacteristic amount of vegetables). As a result, he loses over 20 pounds over a period of three months. Alternatively, consider for example a second language (L2)-related situation when someone decides to start learning a foreign language in preparation for an extended foreign trip, and becomes embroiled in the process to such an extent that she spends virtually all her free time studying the language, while also purchasing dictionaries and computer software to direct her learning, as well as voraciously reading guidebooks and surfing L2 websites to familiarise herself with the L2 culture and environment. In an extreme case she might bore family and friends rigid by talking of the trip and the language incessantly, may dream of the journey at night and cannot help but rehearse the language even while lying in bed. It is as if a new world had opened up for her and, up until the journey, her pursuit of this newly found vision becomes one of the most significant parts of her life.

These and similar occurrences have undeniable relevance to motivation research as they represent motivational surges that powerfully transport an individual from one state to another, but how are they related to complex dynamic systems? In this chapter, we argue that the reason why such heightened motivational periods (which we have labelled '*directed motivational currents*') can be so effective is because they have the capacity to override or modify the multiple pushes and pulls that people experience in their busy lives. In other words, directed motivational currents (DMCs) have the capacity to align the diverse factors that are simultaneously at work in a complex system, thereby acting as a regulatory force. This regulatory potential has considerable practical value because – as we shall see later in detail – it allows people to achieve goals that they may previously have seen as too distant or unmanageable. In addition, and what is particularly important from the perspective of the current book, this regulatory force has significant theoretical and empirical relevance in the light of the challenges posed by the potential unpredictability in researching complex systems.

As expressed in several papers within this anthology, the problem of unpredictability is one of the key issues at the heart of the ongoing struggle to find viable templates for researching complex dynamic systems (cf. Dörnyei, 2014; Lemke & Sabelli, 2008). Once a system's behaviour is deemed to be unpredictable, any methodical investigation of it carries the danger of being considered pointless; after all, what general principles can be deduced from an unpredictable situation? A key tenet of complex dynamic systems (CDS) theory encapsulates this predicament by stating that because systems differ in their initial conditions (see Verspoor, this volume), their future behaviour cannot be consistently predicted on the basis of prior experiences or other similar practices. In other words, we cannot rely on analogies or replicability as guiding principles when trying to deduce how a situation will unfold or what impact a certain factor will cause. Sometimes the overall operation and movement of the system will follow the direction that we would expect as based on past practices, but at other times the fluctuation of system behaviour and the manifold interferences among the system components will result in unique, unexpected patterns and produce indeterminate future outcomes (Larsen-Freeman & Cameron, 2008; Verspoor, this volume).

In an attempt to offer a solution to this potential limitation for research, Dörnyei (2014) has outlined three possible pathways that may allow for the meaningful and systematic study of motivational dynamics: (a) focusing on strong attractor-governed phenomena that regulate the system, (b) focusing on conglomerates of system components in the system's attractor basin that act as wholes and have a pervasive impact, and (c) analysing typical outcome patterns in a retrodictive manner (i.e. 'retrodictive qualitative modelling'; see Chan *et al.*, this volume). The rationale for including the current chapter among the conceptual discussions in this book is our belief that the notion of a DMC is associated with a further area where system behaviour is

predictable enough to provide a window of opportunity for meaningful research to take place. In order to demonstrate this potential utilisation of DMCs, let us begin by offering a description of their make-up and theoretical underpinnings.

The Unique Nature of Directed Motivational Currents

A DMC is a unique phenomenon; individuals experiencing a DMC are often aware that they are functioning at a heightened state of productivity and are able to perform with increased intensity, over and above what they may have believed possible (for more comprehensive summaries of this novel motivational concept, see Dörnyei *et al.*, 2014; Muir & Dörnyei, 2013). Once a motivational current is initiated, it can transport an individual forward towards a goal at a startling velocity, not unlike the Gulf Stream or the East Australian Current (the latter vividly portrayed in the animated film *Finding Nemo* as an oceanic ‘superhighway’). The contrast between the dependable flow of such underlying currents and the inherently temporary nature of waves in an ocean has been described by Peter MacIntyre (2012) as follows:

The power and beauty of the Atlantic provide two key concepts, waves and currents, that I hope will be useful metaphors for understanding individual differences among language learners. On the one hand, waves roll along, rising and falling seemingly at random, cresting and crashing on the shore, only to retreat and be replaced by the next wave. On the other hand, currents exist beneath the surface of the water; the warm waters of the Gulf Stream, always moving dependably up the Atlantic seaboard from the eastern coast of Florida, help to moderate the climate for Cape Breton Island. (MacIntyre, 2012: 12)

Thus, currents differ from the ‘surface variability’ of the waves, which are ‘here and then they are gone’ (MacIntyre, 2012: 13), as the former represent ‘long-lasting, deep-running, broad pathways of movement’ (MacIntyre, 2012). It is important to note at this point, however, that we do not equate a DMC with any motivational current or trait in general; we conceive it as a unique period of heightened motivation that is set into motion by the combination of a number of factors in the pursuit of a specific goal or vision (see below). It is for this reason we apply the modifier ‘*directed*’ to this motivational current. The concept is in some ways akin to Csikszentmihalyi’s (1988) ‘flow experience’ but differs from this state of total absorption in several key features, most notably in that flow focuses on a person’s involvement in a single task that is intrinsically rewarding (autotelic), whereas a

DMC involves a prolonged process of engagement in a series of tasks that are rewarding primarily because they transport the individual towards a highly valued end (a point we shall come back to later). Although DMCs are not particularly frequent, most people are likely to be able to identify occurrences of DMCs in their own history, or in that of a family member or friend, who may, for example, have become devoted to an activity and, in order to achieve a clear objective, acquired a reasonable level of expertise in a surprisingly short length of time. In educational settings, a DMC may be found within a high-school student's intense preparation for a maths competition, in a group of students' deciding to put on a drama performance at school and giving the rehearsals top priority in their lives, or in the initiation of a school campaign to support a charity or other public cause. All these instances involve the establishing of a momentum towards a goal that becomes dominant in the participants' life for a period of time, and which allows both self and observers to clearly sense the presence of a powerful drive pushing action forwards.

As we shall describe in more detail, the power of a DMC is created through the combination of a clear *vision* and a matching *action structure*, the latter involving a powerful launch and subsequent steady onward progression. This progression is scaffolded by sets of *behavioural routines* (e.g. regular amounts of time spent on a task) and *proximal subgoals* (i.e. shorter-term targets that structure action and cause satisfaction when achieved). In a DMC, the combination of these factors fuels the motivational current and enables it to become almost self-propelling, with people adapting their daily life to accommodate the surge as they become caught up in the wealth of possibilities suddenly on offer.

From a CDS perspective, the alignment of various personal and contextual factors in the directional current of a DMC offers a window for systematic research into motivational dynamics. Of course, in line with the principles of dynamic systems behaviour, no matter how powerful a DMC is, it cannot offer perfect predictability. Once the main goal has been achieved the current will cease, sometimes with a decrease of energy towards the end owing to an understanding that the goal is within one's grasp (cf. Locke, 1996), or with a final flurry to complete the mission before time is up. Although there remains a long way for future research to go in describing what causes DMCs to occur and on what factors their strength and duration depend, certain key elements of the process can be delineated; let us look more closely at four of the main components; *generating parameters*, *goal/vision-orientedness*, the *salient facilitative structure* and *positive emotionality*.

Generating parameters

A DMC occurs when a combination of contextual, personal and time factors come together in a unique and highly productive manner, resulting in

the *launch* of the process. There is anecdotal evidence to suggest that sometimes the absence of a seemingly minor element might hold up the launch of a DMC, which is often only realised when the element materialises and suddenly the whole scheme comes to life. In many cases, specific *triggering stimuli* play an important role in initiating the launch, such as an opportunity for action (e.g. an event or a race), a piece of new information (e.g. an offer from the local gym) or a specific call (e.g. a campaign call or the setting of a school assignment). The effectiveness of any trigger depends on the interplay of a whole host of relevant factors involved in the system; this is a recognised phenomenon in CDS theories, the fact that even a small action can potentially initiate a disproportionately large effect often referred to as the ‘butterfly effect’.

From a pedagogical perspective, we believe that the practical significance of a DMC lies in the fact that the motivational surge can also be intentionally generated through the provision of a framework and a set of conditions that can function as a facilitative blueprint. In educational settings, organisational frameworks of this type can include well-designed language learning tasks, longer-term projects or even study-abroad experiences. A successful language learning task (e.g. Ellis, 2003), when involving personalised goals and being pursued with vigorous motivation, can be seen as the simplest form of a DMC. A well-designed project (e.g. Stoller, 2002) can also act as a trigger owing to the fact that projects are inherently directed towards distinct outcomes and provide opportunities for ongoing autonomous – that is, student-owned – involvement along the way. Finally, a period of study abroad (e.g. Freed, 1995) can exemplify an instance of a prolonged DMC, characterised by strong dedication over time around an elaborately structured framework.

Goal/vision-orientedness

The most salient feature of a DMC is its *directional nature*; such a powerful motivational drive cannot happen without a well-defined goal, target or outcome that can provide cohesion for one’s efforts and help focus energy on final goal achievement. The directional nature of a DMC is clearly manifested throughout its entire duration, a characteristic that distinguishes it from other actions displaying high motivation that are pursued not so much to reach a specific end-goal, as for the sake of enjoyment. The directional aspect also explains why *vision* constitutes a key factor in DMCs. Technically speaking, goals and vision represent similar directional intentions to reach future states; however there is a fundamental difference between the two concepts. Dörnyei and Kubanyiova (2014) explain that a vision, unlike a goal, includes a strong sensory element in the form of tangible images related to goal achievement. Thus, for example, the vision to become a doctor is made up of the goal of obtaining a medical degree *plus* the (imaginary) sensory experience of *being* a doctor, both accompanied by potent anticipatory

emotions primed by this future state (cf. MacIntyre & Gregersen, 2012). We believe that the intensity of a DMC is dependent on the addition of this visionary aspect to the guiding goal.

Salient, facilitative structure

A DMC has a distinctive structure that plays a crucial role in facilitating the progress of motivated behaviour. Broadly speaking, the success of a DMC depends on the successful match of a targeted goal/vision with an adequately tailored pathway, allowing the individual to envisage a clear route to success. What, however, does ‘adequately tailored’ mean in this context? To begin, a critical first phase of the DMC structure is its *starting point*; a DMC cannot simply drift into being, but must be consciously and explicitly launched. Once this launch has occurred, the ‘current’ of the DMC takes over, and continued motivated behaviour is sustained through the inclusion of a number of regular *subgoals*, serving both as proxy targets and as criteria to evaluate and confirm progress. This represents the second required component of a successful DMC pathway: a series of regular *progress checks* offering affirmative feedback, such as the daily stepping on the scales during a strictly controlled diet, or the recurring self-assessment task in an online language learning programme. These subgoals divide long-term progression into ‘digestible chunks’, the successful completion of which both marks progress and, importantly, fuels further action.

A third criterion for adequacy is the existence of recurring *behavioural routines*, that is to say regular, fixed divisions of action, such as the going to the gym every evening or the learning of ten new vocabulary items every day. These behavioural routines create a sort of ‘motivational autopilot’ – they become an integral part of the DMC experience owing to the fact that each step is performed without exercising volitional control; in fact, not following this new routine would seem odd, and potentially even lead to feelings of dissatisfaction or guilt.

In sum, the salient structure of a DMC is more than merely a framework for progress; it is tailored for a specific individual in pursuit of a specific vision and, if successful, it becomes instrumental in generating and maintaining a great deal of the energy involved in fuelling action. In other words, the structure takes an active and procedural role in keeping the current flowing and, thus, forms an integral part of the motivational core of a DMC. In this sense, the behavioural outworking of a DMC – that is, the actual pathway that channels the initial momentum into action – becomes an integral part of the theoretical construct. This represents a marked difference from most motivational concepts described in the literature, which do not have an integrated behavioural dimension. Accordingly, we suggest that understanding the key structural elements of this pathway – as well as the impact of any variation within it – will form a crucial future research area into DMCs.

Positive emotionality

As discussed earlier, a DMC is characterised by a clear perception of progress towards a desired target, with the resulting sense of fulfilment leading to positive emotionality associated with the process. However, this latter enjoyment is not necessarily intrinsic in the sense that the sheer performance of the behaviours involved in the task is perceived as pleasurable. Rather, the enjoyment is projected from the overall emotional loading of the target vision; it is as if each step along the way reproduces – or becomes permeated with – some of the joy linked to the overall journey. An illustration of this would be the explorer who finds every new step into the unknown thrilling in spite of the often considerable physical challenges. In this sense, the positive emotionality characterising DMCs is related to ‘eudaimonic well-being’ (e.g. Ryan & Deci, 2001; Ryff, 2013), a term that was first introduced by Aristotle and which is currently used widely in positive psychology to refer to personal wellness as distinct from happiness *per se*. It is linked to a sense of actualising one’s potential or the fulfilment of one’s mission, as opposed to a simple giddy state of happiness or the experience of pleasure. Because a DMC always involves a personal journey that is central to the sense of self, it can activate and utilise this deeper meaning of eudaimonic satisfaction and joy.

As a consequence of this radiated positive disposition, activities that a person previously considered boring or tedious can suddenly become pleasant and enjoyable when part of the DMC process; because they are perceived as being conducive to the accomplishment of the higher purpose, they are thus seen as congruent with one’s deep-seated values. At times like this, as Waterman (1993) summarises, the eudaimonic experiences of an activity are associated with:

- (a) an unusually intense involvement in an undertaking, (b) a feeling of a special fit or meshing with an activity that is not characteristic of most daily tasks, (c) a feeling of intensely being alive, (d) a feeling of being complete or fulfilled while engaged in an activity, (e) an impression that this is what the person was meant to do, and (f) a feeling that this is who one really is. (Waterman, 1993: 679)

As Waterman continues, particularly those activities will give rise to eudaimonic feelings in which the individual realises personal potential ‘in the form of the development of one’s skills and talents, the advancement of one’s purposes in living, or both’ (Waterman, 1993: 679). These are exactly the primary domains where DMCs operate, and the fact that DMCs have the capacity to project positive emotionality to all the stages of the progress they represent is a particularly powerful feature; it serves, in effect, as a regulator of affect as it eliminates unpredictable shifts in behaviour caused by emotional fluctuation.

DMCs as a New Motivational Framework

As already mentioned, a DMC is a novel conceptualisation. The reason why such a potent phenomenon has not been explicitly recognised in past research is chiefly related to the limited temporal focus of most established motivation constructs. For example, a lot has been written about the impact of various goal-related dispositions on human action, but no mainstream motivation theory has taken the step of linking such dispositions with specific behavioural processes *over time* in an attempt to examine how optimal combinations of certain structural features of the behavioural pathway can amplify the overall motivational energy released. Yet, although the concept has not been previously identified, discrete elements of the DMC phenomenon have been the subject of extensive theorising. Four of the most prominent theoretical links in this respect include the following.

- *Goal-setting theory.* We have already discussed the fact that the goal-setting process (Latham & Locke, 1991) is a necessary element for any DMC, and that the DMC pathway requires a series of regular *subgoals* to serve as both proxy targets (Latham & Seijts, 1999) and a source of affirmative feedback. Goal-setting theory also provides a meaningful account of the mechanism by which goals affect overall performance in terms of focused direction and effort, persistence and strategy development. Furthermore, satisfaction in goal-setting theory is not seen as the outcome of engagement itself, but as the result of successful progress made towards goals; this is evident in the DMC mechanism of perceiving on-task engagement as being rewarding irrespective of the nature of the activity.
- *Flow theory.* Similar to DMCs, Csikszentmihalyi's (1988) flow experience features directed concentration, full engagement, high interest, clear feedback and goal-orientedness. However, whereas flow is mainly concerned with absorption in short-term, single tasks, the duration of a DMC can span longer – yet still finite – periods of time. In some ways, therefore, DMCs can be seen as the temporal expansion of the flow mechanism through the addition of a sustainable temporal and behavioural structure to the one-off flow experience. It is crucial to note, however, that the two processes display a fundamental difference in addition to the temporal issue; the enjoyment in flow is solely intrinsic, whereas, as discussed above, the positive emotional loading in a DMC does not necessarily stem from the enjoyment in the activity *per se*, but rather from the awareness that the targeted goal is being approached. This is, however, not to say that flow experiences may not occur while a DMC is in progress.
- *Future time perspective.* This theoretical approach in mainstream psychology (e.g. Zimbardo & Boyd, 1999) has gained increasing momentum over the past decade. It concerns an individual's general disposition towards,

and their personal understanding of, time; more specifically, it concerns whether one's thinking tends to focus on the past, the present or the future. Temporal focus is particularly relevant for DMCs, as it has been repeatedly shown that future-oriented students – that is, students who ascribe higher valence to goals in the distant future – tend to be more persistent and obtain better academic results in the present (e.g. Kauffman & Husman, 2004). This tendency of future-oriented individuals to look ahead and set future goals in order to overcome the complexities of their present learning environment is a valuable link with the DMC process.

- *Self-determination theory.* While we believe that DMCs may be externally facilitated, the generation of a DMC is only possible if an individual takes full ownership of the targeted goal and the action sequence that leads to it. This creates a strong link with self-determination theory (Deci & Ryan, 1985), which states that any meaningful engagement with an activity must be self-regulated, self-determined and autonomous (Ryan & Deci, 2000; cf. Murray *et al.*, 2011). The theory offers a detailed discussion of autonomous engagement with tasks as well as of the psychological nutrients that the social context of the task needs to supply, which is invaluable for our understanding of what is needed in order for a DMC to occur. In addition, the question of how extrinsic motives can be internalised by the learner – which has become an important aspect of self-determination theory – has special relevance for the designing of conditions whereby a DMC may be artificially induced.

Conclusion

A DMC is a potent motivational surge that emerges from the alignment of a number of personal, temporal and contextual factors/parameters, creating momentum to pursue an individually defined future goal/vision that is personally significant and emotionally satisfying. The experience of a DMC carries with it the excitement of journeying down a 'motivational highway' towards new pastures; thus, it can be seen as vision-led self-regulation along a fitting, made-to-measure pathway that augments and sustains exerted effort. Most people will have encountered a DMC at some point in their lives – the phenomenon occurs in numerous guises within the social world. DMCs have been used to transform individuals, groups and situations that have lost their 'zest' or lacked a clear future vision, by offering a pathway of intensive motivated action. If a DMC is successfully launched, people – and even organisations – can become caught up in it and can move on to new levels of existence or operation.

From the perspective of researching CDS, the significance of the generated motivational surge of a DMC lies in its capacity to align diverse factors,

to override various obstacles and to regulate emotional fluctuation. Once a DMC has commenced, the main parameters of its movement and its aimed-for outcomes become, to a large extent, predictable. This is not unlike the launch of a rocket that, after take-off, will follow a set path as determined by the conditions surrounding its launch. It is in this sense that a DMC can function as a regulator of human motivation and activity; it has the potential, if only for a limited time, to override the complexity and chaos of the surrounding world and to channel behaviour down a goal-specific course of action. The resultant steadfast stream of system behaviour can be described in a systematic manner, providing a vital opportunity for research. In other words, DMCs offer us not only the possibility to tap into vast hidden resources of motivational power, but also a window for systematic research in our chaotic world.

Of course, every silver lining is linked to a cloud. Owing to the emergent nature of DMCs, it may not be an easy task for researchers to identify such processes at their inception, or as they develop, and thus be able to 'ride along with the wave' as the DMC progresses up until the point where the energy dissipates. The more practical solution may be conducting post hoc investigations, which, however, raises the question of how far we can go by relying exclusively on retrospective accounts. A viable alternative would be to induce DMCs in laboratory conditions, but an obvious drawback of this option is that such experiments usually involve short-term action, which would seriously restrict the length and type of DMCs examined. Admittedly, we face challenges, but there is also a lot to gain – the DMC phenomenon might turn out to be a basic ingredient in understanding human motivation and achievement in general.

References

- Csikszentmihalyi, M. (1988) Introduction. In M. Csikszentmihalyi and I.S. Csikszentmihalyi (eds) *Optimal Experience: Psychological Studies of Flow in Consciousness* (pp. 3–14). Cambridge: Cambridge University Press.
- Deci, E.L. and Ryan, R.M. (1985) *Intrinsic Motivation and Self-determination in Human Behaviour*. New York: Plenum.
- Dörnyei, Z. (2014) Researching complex dynamic systems: 'Retrodictive qualitative modelling' in the language classroom. *Language Teaching* 47 (1) 80–91.
- Dörnyei, Z. and Kubanyiova, M. (2014) *Motivating Learners, Motivating Teachers: Building Vision in the Language Classroom*. Cambridge: Cambridge University Press.
- Dörnyei, Z., Muir, C. and Ibrahim, Z. (2014) 'Directed motivational currents': Energising language learning through creating intense motivational pathways. In D. Lasagabaster, A. Doiz and J.M. Sierra (eds) *Motivation and Second Language Learning: From Theory to Practice* (pp. 10–42). Amsterdam: John Benjamins.
- Ellis, R. (2003) *Task-based Language Learning and Teaching*. Oxford: Oxford University Press.
- Freed, B.F. (1995) Introduction: Language learning and study abroad. In B.F. Freed (ed.) *Second Language Acquisition in a Study Abroad Context* (pp. 1–33). Amsterdam: John Benjamins Publishing.

- Kauffman, D.F. and Husman, J. (2004) Effects of time perspective on student motivation: Introduction to a special issue. *Educational Psychology Review* 16 (1), 1–7.
- Larsen-Freeman, D. and Cameron, L. (2008) *Complex Systems and Applied Linguistics*. Oxford: Oxford University Press.
- Latham, G.P. and Locke, E.A. (1991) Self-regulation through goal setting. *Organizational behavior and human decision processes* 50 (2), 212–247.
- Latham, G.P. and Seijts, G.H. (1999) The effects of proximal and distal goals on performance on a moderately complex task. *Journal of Organizational Behavior* 20 (4), 421–429.
- Lemke, J.L. and Sabelli, N.H. (2008) Complex systems and educational change: Towards a new research agenda. *Educational Philosophy and Theory* 40 (1), 118–129.
- Locke, E.A. (1996) Motivation through conscious goal setting. *Applied and Preventive Psychology* 5 (2), 117–124.
- MacIntyre, P.D. (2012) Currents and waves: Examining willingness to communicate on multiple timescales. *Contact (TESL Ontario) Magazine* 38 (2), 12–22.
- MacIntyre, P.D. and Gregersen, T. (2012) Emotions that facilitate language learning: The positive-broadening power of the imagination. *Studies in Second Language Learning and Teaching* 2 (2), 193–213.
- Muir, C. and Dörnyei, Z. (2013) Directed motivational currents: Using vision to create effective motivational pathways. *Studies in Second Language Learning and Teaching* 3 (3), 357–375.
- Murray, G., Gao, X. and Lamb, T. (eds) (2011) *Identity, Motivation and Autonomy in Language Learning*. Bristol: Multilingual Matters.
- Ryan, R.M. and Deci, E.L. (2000) Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist* 55 (1), 68–78.
- Ryan, R.M. and Deci, E.L. (2001) On happiness and human potentials: A review of research on hedonic and eudaimonic well-being. *Annual Review of Psychology* 52 (1), 141–166.
- Ryff, C.D. (2013) Eudaimonic well-being and health: Mapping consequences of self-realization. In A.S. Waterman (ed.) *The Best Within Us: Positive Psychology Perspectives on Eudaimonia* (pp. 77–89). Washington, DC: American Psychological Association.
- Stoller, F.L. (2002) Project work: A means to promote language and content. In J.C. Richards and W.A. Renandya (eds) *Methodology in Language Teaching: An Anthology of Current Practice* (pp. 107–118). Cambridge: Cambridge University Press.
- Waterman, A.S. (1993) Two conceptions of happiness: Contrast of personal expressiveness (eudaimonia) and hedonic enjoyment. *Journal of Personality and Social Psychology* 64 (4), 678–691.
- Zimbardo, P.G. and Boyd, J.N. (1999) Putting time in perspective: A valid, reliable, individual-differences metric. *Journal of Personality and Social Psychology* 77 (6), 1271–1288.