

Chapter 1

Self-Regulation and Autonomy: An Introduction

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The study of self-regulation and autonomy has emerged as an important topic at the intersection of several areas in psychology. Developmental psychologists (e.g., Blair & Ursach, 2011; Carlson, 2005; Posner & Rothbart, 2007; Zelazo, Carlson, & Kesek, 2008) have identified different aspects of regulatory control and how these change over time. Social psychologists (e.g., Bandura, 1997; Deci & Ryan, 2000; Ryan & Deci, 2000) have emphasized the importance of autonomy, agency, and self-determined goal setting for healthy psycho-social functioning and academic achievement. Similarly, educational psychologists (e.g., Bodrova & Leong, 2006) consider successful self-regulation to be vital for controlling impulses, attention, cognition, and emotions relevant to academic adjustment (Calkins & Howse, 2004). This interest of developmental, social, and educational psychologists has also been accompanied by a growing understanding of the neurological features of self-regulation (Heatheron & Wagner, 2011; Hrabok & Kerns, 2010), including the role that differences in the inter- and intra-hemispheric organization of the brain, as well as different neurotransmitters, play in predicting developmental and individual differences (e.g., Converse, Pathak, Steinhauser, & Homan, 2012; Luciana, Wahlstrom, Porter, & Collins, 2012).

This volume brings together distinguished scholars from a variety of disciplines, including social psychology, developmental psychology, educational psychology, and neuroscience, to explore the many ways that self-regulation and autonomy impact human life. Given the many different contributors to theory and research on these topics, it can be challenging to

find a common understanding of terms and concepts. We begin, then, by trying to better contextualize the chapters in this volume and offer a review of some of the different ways that self-regulation and autonomy have been conceptualized in psychology, all with an eye toward prominent theories of human development.

SELF-REGULATION AND AUTONOMY

In psychology the concepts of self-regulation and autonomy are sometimes considered synonymous, while at other times they are quite distinct from each other. The etymology of the term autonomy, that is, auto (self) nomy (ruling), has certainly influenced the conceptualization of autonomy as equivalent to self-regulation. In such cases, the term self-regulation has typically been used to refer to a sense of self-control, or as “the self altering its own responses or inner states” (Baumeister, Schmeichel, & Vohs, 2007, p. 517). This conceptualization tends to set self-regulatory abilities in opposition to internal impulses or desires as well as to *other*-regulation (or external regulation), which tends to establish autonomy as a kind of strict independence from others’ influence and control. By contrast, a more process-oriented view of self-regulation – one that perhaps relies less on notions of selfhood as independent – does not carry the same implications for autonomy. In such cases, self-regulation is understood generally as the organism’s ability to regulate itself using self-corrective adjustments when circumstances demand (e.g., Carver & Scheier, 1981). This definition allows autonomous functioning to be seen as an adaptive relationship between an organism and its environment, and, as such, suggests that a detached independence from others or environmental factors is impossible.

Both of these approaches, as it happens, are also present in philosophical discourse on self-regulation and autonomy. For example, May (1994) distinguishes between autonomy as *autarkeia*, or self-sufficiency, and autonomy as self-rule. Autonomy as *autarkeia*, a view that May (1994) – probably mistakenly (see O’Neill, 2003) – attributes to Kant, implies independence from external influences. As May (1994, p. 139) observes, however, viewing autonomy as strict independence from other forces runs counter to much of human experience, and what is considered fulfilling in life, particularly in personal relationships:

To act in a self-sufficient manner seems a rather austere existence, lacking many of the things we think to be a part of a full, rich, and robust life. To act for such contingent, external purposes as fulfilling the wishes of a child,

spouse, or parent because it is what the loved-one wishes would not meet the requirement of self-sufficiency, for the determination of action would then be contingent upon the content of the loved-one's wishes. Yet such actions are often what we consider the very embodiment of a rich life.

By contrast, the conceptualization of autonomy as self-rule allows external factors to influence the determination of action. Autonomy as self-rule, which May (1994) traces back to Aristotle, does not require detachment from external (including social) influences:

Rather, it requires that the agent actively assess these influences rather than simply react to them. External influences do not cause action, but rather provide information that the agent, as "helmsman," then steers according to.

Christman (2009) further specifies that the ascription of autonomy requires that competency (e.g., capacity of rational thought, self-reflection) and authenticity conditions are fulfilled. The latter conditions include the capacity to reflectively endorse and identify with one's desires and values, which Frankfurt (1971) and others (see Sokol, Müller, & Chandler, Chapter 5) have characterized as second-order identification with first-order desires and wants. This self-rule view of autonomy allows for the possibility of bringing into balance more basic, organismic drives or needs with individuals' sociocognitive functioning (for further elaboration, see Grouzet, Chapter 3).

As we describe the complexity of the relations between self-regulation and autonomy, we hope to not only identify common misunderstandings of these terms but also important advances in understanding. The chapters in this volume provide an excellent opportunity to frame these advances with varied examples from the social, developmental, educational, and neurological sciences.

Self-Regulation: From a Single-Process Perspective to a Multi-Layered Approach

The term self-regulation has different meanings. On one hand, self-regulation refers to the regulation of affect, thoughts, and actions by the organism (or the inner self) that is guided by goals and purposes. This approach is directly related to cybernetic models that have dominated the study of self-regulation in psychology (e.g., Carver & Scheier, 1981, 1990, 1998; see also Carver et al. Chapter 12) and have been linked to Piaget's biological notions of accommodation and assimilation (e.g., Boden, 1994; see Waters & Tucker,

Chapter 13). The organism possesses the ability of self-correction in order to attain a goal, using feed-forward and feed-back systems (or assimilation and accommodation). On the other hand, self-regulation may also refer to the control of the organism's response or behavior, "replacing it with a less common but more desired response" (Baumeister et al., 2007, p. 517). This latter definition provides a more narrow type of regulation, commonly referred to as self-control (Carver & Scheier, 2011; Hofmann, Schmeichel, & Baddeley, 2012). Another difference between these two definitions resides in the conceptualization of self in self-regulation. In cybernetic models, in particular, the self can refer either to the organism or to the socially constructed self. The level of analysis does not matter; the basic adaptive processes are understood in the same way. However, when self-regulation is studied more as self-control, the term self refers to the more abstract (or "thick"; see Sokol, Müller, & Chandler, Chapter 5) representation of the self (or agent), and is related to more distinct processes seen in areas of identity development or the "personal" domain (see Nucci, Chapter 8).

In both cases, however, the concept of self-regulation is presented as an important feature of executive functioning processes that develop over time and work to promote successful growth in various social contexts (e.g., school; see Duckworth & Carlson, Chapter 10). However, the nature of the self, such as the extent to which the self is connected to the inner organism versus constructed through social influences, has a significant impact on the conceptualization of self-regulation. Similarly, the development of a self as independent from the social context does not necessarily make it autonomous; rather, how the self is socially constructed may impact the nature of the self-regulation.

Accordingly, social and developmental scientists have proposed models that are responsive to the complex relationships that form between the self and the social. Self-determination theory (SDT; Deci & Ryan, Chapter 2), for instance, has proposed a conceptualization of self-regulation that distinguishes between different degrees in which social influences are integrated within the self: introjected, identified, and integrated regulation. These forms of self-regulation can be placed on a continuum that reflects different degrees of autonomy, as well as different degrees or types of internalization (see Grouzet, Chapter 3). A similar nuanced view of selfhood is also seen in the work of Moshman (2004) who has suggested that "false selves" can guide human behavior and even be used to justify immoral conduct. Finally, Marcia's (1966) seminal account of identity statuses that may be foreclosed, diffused, in moratorium, or achieved also speaks to the complicated ways that social experiences may influence the self. When regulation is external

or when the self acts as a proxy for social control (what Marcia called a “foreclosed identity” or SDT has referred to as introjected regulation), then individuals do not experience a sense of autonomy. In contrast, when an “achieved” or “integrated” self is at the origin of the goal or a person’s conduct, or when the self is sometimes said to listen to its organismic “inner voice” (Sheldon & Elliott, 1999; see Grouzet, Chapter 3), then a person gains a sense of autonomy.

More layered, or nuanced, conceptualizations of self-regulation, such as those suggested here, challenge various theories and assumptions in psychology. Among them is the proposition that self-regulation tends to consume psychological resources and requires for its operation energy (or willpower), which is a limited resource. Baumeister and his colleagues (Baumeister & Heatherton, 1996; Baumeister, Heatherton, & Tice, 1994; Baumeister et al., 2007), for instance, use an energy (as exhaustible resource) model of self-regulation to explain the empirical finding that individuals perform worse on measures of self-regulation as a result of prior high intensity self-regulatory engagement. However, more recent research conducted by Moller, Deci, and Ryan (2006) found that autonomous forms of self-regulation (i.e., identified and intrinsic self-regulation) are not associated with depletion of energy and might even serve as a source of psychological vitality; only more controlled, or less autonomous, forms of self-regulation (i.e., introjected regulation) were found to be depleting.

Another influential idea that has been challenged is the assumption that the biological impulses or organismic tendencies are opposed to what is societally or culturally acceptable and therefore must be reined in by self-regulatory processes. One fundamental tenet of humanistic psychology, for instance, is that organisms – particularly human beings – possess an innate sense of what is most healthy for themselves (e.g., organismic valuing process; see Grouzet, Chapter 3). Thus, it might be too simplistic to assume that biological impulses always require some form of regulation. As we are cultural animals (Baumeister, 2005), the development of self-regulation is obviously important for adaptive functioning in our society, but muting organismic tendencies may also thwart well-being and integration (see Deci & Ryan, Chapter 2).

In this volume, it will become evident that the concept of self-regulation is used in more or less layered ways, depending on particular assumptions associated with the self. For example, Sawyer’s (Chapter 4) understanding of self-regulation refers to externally controlled (or introjected) aspects of the self, which explains why he proposes an opposition between self-regulation and autonomy (the latter, in an SDT perspective, refers to autonomous

self-regulation). In other chapters (e.g., Duckworth & Carlson, Chapter 10), self-regulation seems to refer to more autonomous forms of regulation.

Autonomy: Toward Context-Specific Approaches

The concept of autonomy is widely used in psychology, including personality and social psychology, developmental psychology, and clinical and applied psychology, as well as in philosophy, law, and medicine. Because of its significance to human existence (Christman, 2009; Deci & Ryan, 1985; May, 1994), autonomy is a central psychological construct in several theories and models. However, due to the lack of consensus on the conceptual and operational definitions of autonomy, there is a lively debate over its developmental origin, its general importance across the life span and different cultures, and its impact on individuals' growth and day-to-day functioning. Some researchers tried to identify commonalities and differences among the different conceptualizations in the literature (e.g., Hmel & Pincus, 2002; Ryan, Deci, Grolnick, & LaGuardia, 2006). As we have illustrated so far, a common difference concerns the conceptualization of the interaction between the self and social environment. While some approaches to autonomy focus on the separation or independence of the self from others, other approaches view autonomy as resulting from a dialectical relationship between the self and the social.

A dialectical perspective considers the organism in constant interaction with the environment. Psychological approaches such as psychodynamic, humanistic, Piagetian, and Vygotskian or sociocultural traditions support this dialectical perspective. Rather than placing autonomy in opposition to communion, autonomy is opposed to passivity in governing. The self- (auto-) governing (nomy) individual is considered to be actively involved in and consciously affirming his or her decisions, whereas individuals who are externally determined in their decision making are considered to be governed (nomy) by something other or foreign (hetero). The distinction between heteronomy and autonomy is central to Piaget's theory of moral development (1932/1965), as well as to Deci and Ryan's (Chapter 2) self-determination theory (SDT).

SDT and Piagetian theory each propose that autonomy, in some form, must be present from birth, and autonomy must not (nor cannot) be inculcated into a person. For example, in his work on infancy, Piaget (1936/1963) argued that children are intrinsically motivated to exercise their sensorimotor schemes and experience functional pleasure in doing so (see also Deci & Ryan, Chapter 2). A further common feature that is shared between SDT and Piagetian theory is that living systems, particularly human beings, are

viewed as functioning according to principles of self-organization and possessing a natural tendency to grow in orderly ways (i.e., growth is a natural consequence of the interactions between organism and environment; see Deci & Ryan, Chapter 2; Grouzet, Chapter 3; Sawyer, Chapter 4). Self-organization and self-regulated growth further highlight the autonomous nature of the organism.

However, in the context of moral development, some have suggested that Piaget (1932/1965) argued for two stages of moral functioning (Kohlberg, 1981) in which children move from heteronomy to autonomy. Although this interpretation has been contested (Carpendale, 2000; Sokol & Chandler, 2004; Youniss & Damon, 1992), this stage account raises questions of how it is logically possible to move from heteronomy to autonomy, and specifically, how self-rule can emerge from other-rule (Wright, 1982). This problem is recognized by SDT, which proposes that autonomy does not emerge but is present already in infancy and the move from heteronomous morality to autonomous morality (in the form of integration) is the result of the support of the psychological need for autonomy.

Therefore, the context in which autonomy is studied may help explain aspects of its conceptualization. For example, in the context of social relationships, autonomy can be considered as independence from others. In the context of competence (and daily functioning), autonomy may refer to the ability to do things without help, and to make decision and choices. In the context of organismic regulation, autonomy is a fundamental psychological need and refers to a natural self-integration and valuing processes (e.g., Deci & Ryan, Chapter 2; Grouzet, Chapter 3). In the context of morality, autonomy is related to the concept of self-regulation and is the outcome of socialization; the development of autonomy corresponds to the ability to resist many of the temptations, coming from inside or outside (e.g., see Sokol, Müller, & Chandler, Chapter 5). In the context of identity, autonomy refers to the expression of personal interests (e.g., Nucci, Chapter 8). The list of contexts could be expanded, but contextualizing the discourse on autonomy offers a good organizational framework for the various ways that autonomy is understood.

Development of the Self: Between Organismic and Cognitive Processes

The development of the self and its self-regulatory abilities is another central theme in this volume. Referring to work by Piaget, Vygotsky, and Rogers, the chapters examine different perspectives on the development of self-regulation and autonomy. On one hand, some chapters emphasize the natural

tendency for self-development, referring to concepts such as an organismic integration process (Deci & Ryan, Chapter 2), organismic valuing process (Grouzet, Chapter 3), and emergence (Sawyer, Chapter 4). Autonomous self-regulation, according to these contributors, is seen to emerge naturally when the organismic needs of autonomy, competence, and relatedness are supported (Grolnick & Raftery-Helmer, Chapter 7; Ryan & Deci, Chapter 9). On the other hand, several chapters stress the importance of cognitive development for internalization and autonomous self-regulation (i.e., identified and integrated regulation) (e.g., Krettenauer, Chapter 6; Duckworth & Carlson, Chapter 10; Kinnucan & Kuebli, Chapter 11). According to these contributors, a sense of autonomy cannot emerge without the guidance of meta-cognitive abilities that enable self-authorship and ownership, a sense of (volitional and then identified) agency, and the ability to critically examine or even explain why we do what we do. What is considered by the former group as supporting an organismic need, the latter group studies as a form of sociocognitive functioning. Although these two perspectives appear to be contradictory, they might actually complement each other as Grouzet has proposed in his dual valuing process model (Chapter 3). The combination of organismic and cognitive processes can enhance our understanding of self-regulation and autonomy and their development in social and educational contexts. This combined organismic-cognitive perspective is also supported by neurological studies of self-regulation and autonomy which show that development and learning share the same neurological mechanisms (e.g., Waters & Tucker, Chapter 13). Another integration of these two perspectives can be found in Krettenauer's three-layer model of the moral self (Chapter 6) according to which early cognitive development leads to the emergence of three levels of the moral self that, in turn, impact self-regulation.

ORGANIZATION OF THE VOLUME

The objective of this volume is to provide a comprehensive and multi-perspective overview of the concepts of self-regulation and autonomy as they are studied in social, developmental, educational, and neuro psychology. The complexity of the concepts and the richness of the chapters offer various ways to organize the volume. Based on our analysis of the different meanings of self-regulation and autonomy, we chose to organize the chapters in four sections that address (1) the dialectic between the organism and the social context, (2) the social developmental perspective, (3) the role of self-regulation and autonomy in education, and (4) the neurological foundations of self-regulation and autonomy.

Dialectic Between Organismic and Social Processes

The first part of the volume includes three chapters on important theoretical conceptualizations of self-regulation and autonomy that highlight the dialectic between organismic tendencies (i.e., organismic integration process, organismic valuing process, and emergence) and social demands as being central to self-regulatory processes. First, Edward Deci and Richard Ryan present in Chapter 2 one of the most important macro-theories in psychology, namely, self-determination theory, which assigns a central role to autonomy and self-regulation. Deci and Ryan suggest that the organismic integration process is intrinsic and explains the internalization of extrinsic motivation. More specifically, they propose that the fulfillment of three fundamental psychological needs (autonomy, competence, and relatedness) can foster intrinsic motivation and integration, which is then translated into four forms of self-regulation that are characterized as introjected, identified, integrated, and intrinsic regulation. They summarize 40 years of research using self-determination theory as a theoretical framework to study human development and self-regulation. Deci and Ryan offer a framework for understanding self-regulation as described in the other chapters because they make a clear distinction between autonomous and controlled forms of self-regulation.

In Chapter 3 Frederick Grouzet revisits the valuing processes that are proposed in humanistic and social psychology to explain the development and internalization of personal goals and values. Goals and values occupy a central role in self-regulatory processes as they reflect the dynamic between the emergent self and the social context, influence corrective adjustments, and guide daily behaviors. In congruence with self-determination theory, he proposes a model that combines Rogers's organismic valuing process and the sociocognitive valuing processes that are dealt with in social and developmental psychology. In contrast to some self-regulation models that present inner impulses as something to control, the Dual Valuing Process Model proposes that the organism is capable of autoregulation, so the "inner voice" should sometimes be listened to rather than controlled. Grouzet proposes that the dynamic between the organismic and the sociocognitive valuing processes can lead to different degrees of autonomy and authenticity.

Finally, Keith Sawyer (Chapter 4) introduces the concept of emergence in an attempt to resolve the tension between autonomy and self-regulation. Emergence figures as an important concept in the accounts of human development and creativity, both of which necessarily involve (and result from) tension between the social and the individual. From this

tension emerges a higher level entity that represents the mature person who balances autonomy and self-regulation. Sawyer's conceptualization of autonomy and self-regulation is different from that in other chapters. Specifically, in his chapter autonomy refers to the individual with his own desires and interests, and self-regulation refers to introjected regulation. The conflict between autonomy and self-regulation thus results from a conceptualization of autonomy and self-regulation that differs from that in other chapters of this volume.

Social Development

The second part of the volume includes four chapters that examine autonomy and self-regulation through the lens of social development. The development of self-regulation is intimately related to the development of the self, and more specifically the moral self. In Chapter 5, Bryan Sokol, Ulrich Müller, and Michael Chandler raise fundamental questions regarding the development of the moral self and agency. Building on Piaget's suggestion that agency is rooted in perspective taking, Sokol, Müller, and Chandler distinguish between a "thin" and "thick" sense of agency, corresponding to different levels of abstraction in self-regulation (see Carver & Scheier, 1998). They use this distinction to examine the process of self-appropriation by means of which individuals commit themselves to particular values and ideals. They report a study that investigates how adolescents construct their agentic abilities.

In the following chapter, Tobias Krettenauer proposes a three-layer model of the moral self, making a distinction between intentional, volitional, and identified agent. This multi-dimensional and hierarchical approach addresses Sokol et al.'s concerns (Chapter 5) and Nucci's (2004a, 2004b) criticisms regarding the reductionist approach to morality. Krettenauer identifies a sequence in the development of the moral self, which, in the order of emergence, includes the intentional self, the volitional self, and the identified self. However, in contrast with some stage models in developmental psychology, higher levels of development do not replace the previous ones. All three forms of agency co-exist. This three-layer model offers a unique perspective on self-regulation, combining developmental principles and multi-level representations of the self. In other words, more complex aspects of the self include (rather than replace) more simple components. In this respect, the structure of Krettenauer's theory of the moral self is similar to and consistent with the evolutionary-developmental framework by Waters and Tucker (Chapter 13), according to which primitive brain structures interact with more complex structures in regulating affect and actions.