

Culture and Development of Self-Regulation

Gisela Trommsdorff

Abstract

In the present paper, I aim to both contribute to a culture based theory of self regulation and clarify some mutually constitutive functions of psychological and sociocultural phenomena. I examine the relations between self and culture and the role of these relations in the development of self regulation. Self regulation is based on the intention to modify internal processes and behavior to reach one's goals. Because the development of self regulation is embedded in a cultural context that gives priority to a specific model of agency, processes of self regulation are assumed to differ cross culturally. First, I give a brief overview on self regulation research. Further, I discuss the contribution of a culture informed perspective to the study of self regulation and its development, taking into account interpersonal self regulation. Finally, I present a 'Cultural Model of Agency and Self Regulation,' which suggests how to link culture and individual agency.

Self regulation has recently become a debated topic in other disciplines such as behavior economics and sociology. In behavior economics, researchers have regarded delay of gratification or the regulation of risk taking behavior as preconditions for rational behavior. In psychology, self regulation is usually conceived of as a complex, universal human ability that structures goal directed behavior and increases the likelihood of fulfilling a variety of individual needs. This and individual differences in self regulation underline the necessity to investigate its components, its developmental conditions, and its activation in different contexts. Although investigators have long noted that standards for self regulation and related strategies differ for people from different cultural backgrounds (e.g., Eisenberg & Zhou, 2000), researchers have neglected the role of culture in most studies on self regulation. In only a few studies have researchers investigated the relations between the individual person (self system) and culture (sociocultural system), and how these relations become effective in the development of self regulation. In line with culture psychological studies on socialization, I assume here that the dominant cultural values and goals and the related cultural model of agency affect socialization conditions for the child and the respective developmental outcomes for self regulation. The transmission and development of self regulation in the socialization of children is fostered by internalization processes (Tomasello, Carpenter, Call, Behne, & Moll, 2005). According to Grusec and Goodnow (1994), the internalization process is based on a positive parent-child relationship. The expectations of significant others become part of the child's own personal value system, especially when the other persons belong to the child's in group (Trommsdorff, 2009). The child's internalization of social norms and of perceived expectations of others who are close develops into a self regulatory system fostering cultural fit.

1. Self-Regulation: Concept and Underlying Assumptions

Broad definitions of self regulation include both basic skills, such as automatic processes involving attention and inhibition, and higher level processes, such as effortful inhibitory control and conscience development. For example, delay of gratification is based on both skills and the motivation to self regulate.

Self regulation has been narrowly defined as “the capacity to override one’s thoughts, emotions, impulses, and automatic or habitual behaviors . . . throughout the entire life span” (Gailliot, Mead, & Baumeister, 2008, p. 472). This definition includes resisting dominant responses or engaging in adaptation and adjustment of behavior to new situational demands. In this paper, I conceive of self regulation not only as a skill but also as motivated, goal directed behavior, which includes plans and strategies for realization of goals. Self regulation may be directed to the modulation of motivations (e.g., regarding achievement, self enhancement, and interpersonal relations), emotions (e.g., their experience and expression), cognitive processes (e.g., attention and perception), and behavior (e.g., cooperation).

In most studies on self regulation, researchers have taken an *individual-centered approach*. Studies on preconditions for self regulation have focused on individuals’ strategies of regulation, and the function of self regulation for the achievement of positive outcomes and avoidance of negative outcomes. Researchers have explained individual differences in self regulation through personality variables such as inhibitory control (Kochanska, Murray, Jacques, Koenig, & Vandegest, 1996), temperament (Rothbart, Ellis, & Posner, 2004), intelligence (Calero, García Martín, Jiménez, Kazén, & Araque, 2007), time perspective (e.g., cognitive ability to foresee and evaluate outcomes as possible selves in the future; Bischof Köhler, 2000), the motivation to postpone gratifications (Mischel & Ayduk, 2004), belief in regulatory self efficacy (Bandura, 1997), and the ability to act on the experience and expression of emotions (frustrations, distress, and joy; Baumeister, Zell, & Tice, 2007). Further factors explaining individual differences include the availability of resources for self regulation (to avoid ego depletion; Baumeister & Vohs, 2007), effects of automatization and regular practice (Gollwitzer & Bargh, 2005), and task difficulty (Heckhausen, 1991). For example, an indicator of self regulated goal setting is choosing a level of difficulty that will maximize achievement (a task that is neither too easy nor too difficult). An indicator of effective self regulation is when undesirable dominant (or automatic) behavior is intentionally inhibited.

Accordingly, experimental studies on children’s self regulation have usually emphasized effortful control—the ability to voluntarily inhibit, activate, or change attention and behavior for effective self regulation (e.g., Eisenberg, Fabes, & Guthrie, 1997). Measures have included children’s ability or willingness to: (i) follow an adult’s instructions (typically the child’s mother or the researcher); (ii) wait and not consume a sweet; (iii) continue a boring task and not play with interesting toys; and (iv) press buttons in response to the appearance of a symbol (Mischel, Shoda, & Rodriguez, 1989). Self regulation (e.g., delay of gratification) is motivated by one’s expectations of positive (relative to negative) outcomes in the future; this motivation can be based on expected and intrinsically motivating task related rewards or on extrinsic rewards such as a successful outcome (e.g., gift, praise). Typically, in these experiments, the focus is on inhibitory control (deactivating a dominant response) while disregarding distracting activities (such as in self regulated learning).

In his self regulatory model, Higgins (1997, 1998, 2008) assumes two systems: regulatory focus (promotion or prevention concerns) and regulatory mode (locomotion and

assessment concerns). Different self related goals are regulated by these differing systems. Goals are related to the *ideal self* in the case of promotion focused self regulation (accomplishment and success). In contrast, goals are related to the *ought self* in the case of prevention focused self regulation (safety, responsibility, and meeting obligations; Higgins, 1997).

Higgins, Pierro, and Kruglanski (2008, p. 165) assume both, universality of self regulation and cross cultural differences. According to these authors, cultural differences can be created through self regulatory universals. "...we expected to find that both the promotion system and the prevention system functioned in each culture (and functioned in similar ways), but that the relative strength of each system would vary across culture." Higgins' (1997, 1998) model broadens the concept of self regulation by taking into consideration the cultural anchoring of the social self, which is construed according to socio cultural norms and values.

Self regulatory effort may be directed to individualistic goals (e.g., achieving material or social success) or directed to social or group goals (e.g., supporting social harmony). Social goals of self regulation require an effective interpersonal regulation whereas agency is the dynamic factor in all self regulatory processes.

Universal preconditions for the *development of self-regulation* can be seen in a basic capacity for understanding the self and one's own and others' agency. Here, early developmental conditions of attachment, empathy, perspective taking, and theory of mind are relevant. Furthermore, children adopt standards of behavior representing significant others' expectations as part of conscience development and internalization (Tomasello, 1999). The ability to self regulate (e.g., by effortful control) is complemented by the motivation and intention to self regulate in accordance with others' expectations. These expectations in turn are influenced by cultural values. Therefore, self regulation differs with respect to the respective dominant cultural values and the related cultural model of agency. According to Grusec and Goodnow (1994), the child's acceptance of the parents' expectations constitutes one of the necessary preconditions for the internalization of cultural values and social rules. In the following, I will discuss how such internalization organizes the development of the self construal which in turn affects the person's goals, agency beliefs, and self or interpersonal regulation. This discussion will introduce assumptions from the 'Cultural Model of Agency and Self Regulation' (see Figure 1).

2. Models of Agency, Culture, and Self-Construal

Self regulation is based on models of agency and related self construals, which vary cross culturally (Markus & Kitayama, 1991, 2003). An example for a simplified definition of a certain cultural model of agency is the preference and belief in individual and disjoint agency based on personal characteristics and self efficacy. This is in contrast to a different cultural model of agency which bases on the belief in conjoint and social agency influenced by situational conditions, a malleable self, and social efficacy.

Accordingly, some investigators assume that persons and their sociocultural environment are interdependent (Bond, 2004; Higgins, 2008; Markus & Hamedani, 2007; Trommsdorff, 2007b). This interdependence is a consequence of the human capacity for making and for sharing culture (Bruner, 1990; Tomasello, 1999). A major unresolved question is how the psychological and cultural patterns are mutually interacting and in what way they are mutually constitutive (see also Higgins, 2008; Trommsdorff, 2007a). A culture based theory of self regulation may clarify some mutually constitutive functions of psychological and sociocultural phenomena.

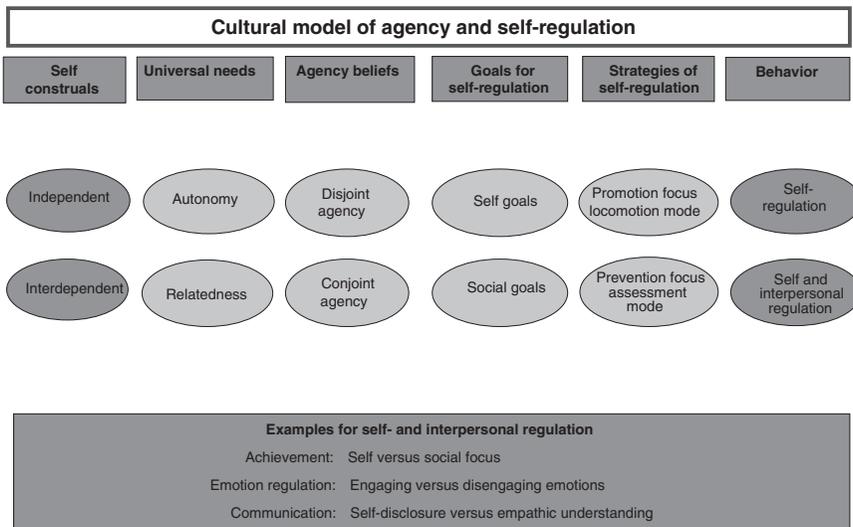


Figure 1 Cultural model of agency and self regulation.

Culture is defined here as a shared meaning system and a shared understanding and creation of the social, economic, and material world. Members of a culture share a common language, location, symbols, values, beliefs, and goals that are part of the meaning making process underlying the person–culture relationship (Bruner, 1990; Shweder, 1990). People engage in meaning making through acting and interacting in social settings and sharing material products (e.g., artifacts) in a particular geographical niche (Cole, 1996). Understanding the intentional action of others is complemented by agency beliefs and shared intentionality, a component of cultural agency (Tomasello, Carpenter, Call, Behne, & Moll, 2005). Shared intentions are the basis for collaborative action, which increases the probability of successful goal attainment for the individual and the group. Following the same line of reasoning, Shweder (1990) claimed that the intentional person is interdependent with the intentional culture—the human artifactual world of meanings. Sophisticated views on culture go beyond the conceptual world of meanings and symbolic resources and also focus on the material world (e.g., Bond, 2004; Markus & Hamedani, 2007; Shweder, 1990). Sociocultural patterns include the material environment, the social structure, social systems, and culture. Psychological patterns include motivational, cognitive, and emotional processes, and related behavior.

Cultures are interrelated with the individual actors, with wider contexts, and with individuals' interactions within multiple contexts (e.g., social networks). Culture does not influence individual goals and intentions directly. Instead, systemic, bidirectional influences, which are mediated by other phenomena on the relational level, are operative (Trommsdorff, 2007a). For example, individual parenting behavior and child development are part of a cultural niche influenced by culturally shared beliefs (e.g., Super & Harkness, 1997). Culture, in turn, is indirectly affected by the parents' beliefs and socialization behavior, and by their impact on their children's development of self regulation. An example is parental sensitivity, which is influenced by cultural values (Trommsdorff & Friedlmeier, in press). Caretaker's sensitivity affects the child's internal working model of the self and attachment security (Bowlby, 1969). Attachment security, in turn, is related to conscience development and the internalization of rules of conduct in the preschool

age (Laible & Thompson, 2000). Depending on their internalization of rules, children's behavior will be in accord with or in contrast to cultural values and rules and thereby affect the parents, peers, and other contexts of interactions. However, effects of self regulation on culture are insufficiently studied in empirical research. Thus, longitudinal and interdisciplinary studies are needed.

Theoretically assumed connections between individual behavior and culture need to be empirically tested to specify the direction of the relation (unidirectional or bidirectional) and the underlying processes. Although researchers in cross cultural psychology have elaborated some pathways from distal environmental factors (e.g., climate, geography, sociocultural patterns) to psychological phenomena (e.g., the ecological model by Whiting & Whiting, 1975; Berry, 1976; Bronfenbrenner, 1979), reverse pathways and interactive relations have been neglected (exceptions are Bruner, 1996 and Shweder, 1990).

The self construal based on cultural models of the self can be seen as affecting culture directly and indirectly. "Thus, sociocultural models give form and direction to individual experience, for example, perception, cognition, emotion, motivation, action" (Markus & Hamedani, 2007, p. 15). These models exist in the minds of people who participate in a certain context; these models also structure the material world in which these people live.

Depending on the kind of dominant cultural values, either independent self construals and related goals or interdependent self construals and goals evolve (Kitayama & Uchida, 2005). The cultural models approach has proven useful for the study of self systems, agency, cognition, emotion (e.g., Kitayama & Uchida, 2005; Markus & Kitayama, 1991), and social development (Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000; Rothbaum & Trommsdorff, 2007; Trommsdorff & Rothbaum, 2008).

In the following section, I discuss whether the cultural models approach is also useful for studying the development of self regulation. I assume here that the development of self regulation is influenced by the sociocultural model of agency which is transmitted by internalization processes in a certain cultural niche. This niche is anchored in a culture specific meaning system for constructing the self, others, and social relations. The cultural model of agency affects the developmental conditions for the goals and strategies of self regulation. Self regulation, in turn, is relevant for individual behavior (e.g., adaptation and achievement) and its effects on the sociocultural environment (e.g., family income and mobility). Here, I will present assumptions from the 'Cultural Model of Agency and Self Regulation.'

3. Development of Self-Regulation and Cultural Models of Agency

According to Bandura (2001), human agency underlies individual decision making and goal setting as well as related self regulation. The models of agency imply a specific focus on self regulation. I next discuss the differentiation between the independent and the interdependent/relational self construal to analyze two different systems underlying agency in self regulation.

The development of the self and of self regulation are assumed here to be organized according to the respective cultural model of the agency, which gives priority to either the independent or the interdependent (social) self (Kitayama, 2000; Markus & Kitayama, 1991; Oyserman & Markus, 1993). The relative preference of the independent or interdependent model of agency will influence the development of the respective self regulation strategies for maximization of individual or group outcomes. In the case of an interdependent model of agency, goals such as accommodation are shared by group members and influence their self regulatory behavior. Therefore, the impact of culture

has to be taken into account in the study of self regulation and its development. Depending on the respective cultural model of the agency, the goal of self regulation focuses either on autonomy and a related independent identity or on community ethics (Morelli & Rothbaum, 2007), including harmonious relationships and values of duty, respect, and obligation.

Self-construal and cultural model of agency

For the conceptualization of either individual or social centered self regulation, a theoretically fruitful conceptualization of the self is needed. I refer to the concept of self construal based on the cultural model of giving priority to independence or interdependence (Markus & Kitayama, 2003).

A focus on independence in agency is characteristic for European Americans, whereas in interdependent cultures (e.g., East Asia), one's agency is shared with others, especially with members of one's group or close family members (Trommsdorff, 2007b). This *conjoint* agency is different from the *disjoint* agency in cultures favoring independence (Morling & Kitayama, 2008). This preference is related to a different value of agency, personal control, and choice. In East Asia, self regulation processes involve conjoint agency in contrast to independent agency. Self regulation in a culture favoring interdependence and harmony focuses on flexibility and adjustment of the self to fit into the social relationships (including related self efficacy beliefs); this fosters positive feelings of belonging that are different from the experience of independence, power, or self efficacy (Morling & Evered, 2006).

In the independent model of agency, action often takes the form of influencing other individuals or environmental factors in accordance with one's own needs and goals (primary control). In contrast, in the interdependent model of agency, action is directed toward adjusting one's own goals and behavior to the goals and expectations of others (fit focused secondary control; see Morling & Evered, 2006; Rothbaum, Weisz, & Snyder, 1982; Weisz, Rothbaum, & Blackburn, 1984). Accordingly, in the case of the independent model of agency, self regulation focuses on the goal of maintaining individual autonomy. This kind of self regulation may result in (primary) control behavior aiming to change the situation, change other persons, or change the environment. In the case of the interdependent model of agency, the primary focus is on fitting in socially and maintaining interpersonal harmony. Morling and Evered (2006) conceive the fit focused control as serving the motivation for relatedness. The agency approach by Morling and Evered (2006) thus focuses on cultural differences.

Self-regulation based on needs for autonomy and relatedness

Ryan and Deci (2002) assumed that the three basic needs of autonomy, competence, and relatedness are universal. In line with the aforementioned functional definition, self regulation can be conceptualized as agency to serve these needs. I cannot discuss cultural differences in the cultural meaning of competence (e.g., Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000) because of space limits but instead focus on the culture specific meanings of autonomy and relatedness, which seem to oppose each other but basically coexist. The assumed coexistence of autonomy and relatedness (Dennis, Cole, Zahn Waxler, & Mizuta, 2002) needs clarification with respect to its nature (e.g., whether autonomy or relatedness is subordinate or emphasized in the United States or in Japan). Cross cultural studies on mother-child interactions have shown significant differences in mothers' emphasis on

autonomy (e.g., more emphasis in the United States as compared with Japan; see overview by Rothbaum & Trommsdorff, 2007).

Rothbaum and Trommsdorff (2007), who underlined the coexistence of both autonomy and relatedness, added another culture specific aspect of agency in their culture psychological analyses. The authors claimed that in the interdependent model of self, autonomy needs can only be satisfied on the basis of relatedness (belief in belonging and assurance). This differs from the independent model of self in which autonomy is achieved while also aiming to satisfy the need for relatedness by engaging in negotiations for intimate exchange of belonging.

In line with some culture informed suggestions by Higgins (2008) and Higgins et al. (2008), which go beyond a motivation and personality perspective, it can be assumed that in the independent model of agency, self regulation presumably is promotion focused with a regulatory mode of locomotion, giving priority to autonomy; whereas in the interdependent model of agency, self regulation presumably is prevention focused with a regulatory mode of assessment, giving priority to dependency, relatedness, and avoidance of the risk of interpersonal disruptions (separation). In this latter case, autonomy may take on a different form of agency and follows different rules in line with the cultural model of interdependence. Here, autonomy takes the form of fit focused control, which is achieved by successfully accommodating the expectations of others. An example is the traditional support of elderly parents in Asian countries because of the Confucian belief in filial piety. This kind of related autonomy is very different from individual autonomy because it is based on empathic feeling with others' needs and goals. Researchers have noted this phenomenon in several other observational studies on mother–child interactions in Japan and Germany (Trommsdorff & Friedlmeier, 1993; Trommsdorff & Kornadt, 2003).

Accordingly, self regulation can be conceived of as motivated action in line with the dominant cultural model of agency. In the case of the independent model of agency, self regulation is related to giving more priority to autonomy (in combination with relatedness and competence). In contrast, in the case of the interdependent model of agency, self regulation is related to giving more priority to relatedness (in combination with autonomy and competence). Thus, self regulation and its underlying motivation for autonomy or relatedness depend on the cultural meaning of agency. I will discuss this further as part of the 'Cultural Model of Agency and Self Regulation' (see Figure 1).

4. Self-Regulation and Behavior as Based on the Cultural Model of Agency

Self-regulation and achievement

Most researchers have assumed that successful achievement is fostered by self regulatory processes such as setting realistic goals, maintaining effortful control of attention, being persistent, engaging in exercise, and so forth. However, the self regulatory processes in achievement situations differ significantly as evidenced by several cross cultural studies comparing East Asian and European American samples (Kim & Park, 2006; Trommsdorff, in press). According to Confucian belief, commitment to learning is the royal road to self perfection. The goal is to function well in society as a morally cultivated person. This principle underlines the moral necessity of self regulation—children learn to develop adaptive attitudes toward life long learning (*ren*).

Successful achievement and related self regulation have a different meaning depending on the preferred cultural value orientation and the related model of agency. In the case of an independent cultural model of agency, success is experienced as an indicator of

talent and ability (based on an entity belief). The related, interpersonally disengaging emotional experience is pride and deservingness. In the case of the interdependent cultural model, success is experienced as an indicator of effort (because of the belief in the malleable self) and as a result of the parents' and teachers' investment in one's socialization. The related, interpersonally engaging emotional experience is gratitude and a feeling of indebtedness. At the same time, the individual feels a need to engage in continuous effort to further improve his or her achievements to reach the standards of others who are close and fulfill their expectations. Accordingly, Asian children's self regulation in achievement situations is embedded in an interdependent model of agency; it is motivated by filial piety and the related goal to pay back the parents (Trommsdorff, in press; Trommsdorff & Rothbaum, 2008).

The question arises of whether performance differs in the case of the interdependent as compared with the independent model of agency. A partial answer is suggested by the study of Iyengar and Lepper (1999). The authors compared the achievement outcomes of European American and Asian American children who could either choose the features of their task themselves or who were assigned the features of the task by their mothers or classmates. The results showed that the children were more motivated and performed better when the manipulation was consistent with the sociocultural values of their respective context. This finding suggests that successful self regulation may be promoted by a cultural fit between self construal and cultural values of independent or interdependent agency.

To summarize, self regulation as a precondition for successful achievement can be motivated by highly different goals depending on the respective model of agency. Independence and interdependence, as preferred cultural models of agency, motivate different strategies of self regulation in achievement tasks.

Self-regulation and emotions

One domain of self regulation is the modulation of component processes of emotions, including changes in appraisal, expression, experience, and behavioral intentions (see Cole, Martin, & Dennis, 2004; Thompson, 1994). Because emotions can organize adaptive as well as maladaptive behavior, emotion regulation is of special interest for the study of self regulation. For example, positive emotional states such as hope can motivate behavior and foster self regulation activities while reducing ego depletion.

Culture informed studies indicate cultural differences in the spontaneous expression of emotions such as pride after success and shame following failure or as compensation for anger. Although pride and shame can be seen as biologically innate, universal emotions, shame was less pronounced among individuals from individualistic cultures, which highly valued self expression (Tracy & Matsumoto, 2008). In Asia, the expression of other focused, socially engaged emotions (e.g., gratefulness, empathy, and shame) is more valued than it is in individualistic countries (Kitayama, 2000). In addition, failure may be experienced as indicating a lack of effort and lack of filial piety and thereby as extending shame on the whole family. Shame can be a powerful emotion that guides the learner to understand his or her shortcomings and motivates the learner to improve his or her outcomes. Shame is an emotional reaction that may increase self regulation in the case of a cultural model of interdependence. The question of whether shame has a similar effect in the West or whether it decreases motivation needs empirical investigation.

In only a few culture sensitive studies on emotion regulation have researchers taken into account the cultural models of agency. Depending on the cultural model of agency,

developmental conditions for emotion regulation differ. The processes of emotion regulation such as appraisal and expression can vary systematically depending on the respective cultural values of interdependence and independence. Cole, Tamang, and Shrestha (2006) showed that Tamang and Brahman caregivers socialize children's appraisal and expressions of anger and shame differently. Tamang caregivers rebuke an angry child but yield to a child who appears ashamed. Brahman caregivers ignore shame but respond to a child's anger with reasoning. Thus, depending on the culture specific emotion of socialization, children's emotion regulation occurs at the appraisal level (e.g., Tamang children) or at the expression level (e.g., Brahman children; Cole & Tamang, 1998). Furthermore, Cole, Walker, and Lama Tamang (2006) showed that Brahman and rural US children endorsed anger as instrumental for self assertion whereas Tamang children reacted with reappraisal of the situation and with shame as a submissive emotion. Tamang children avoided experiencing anger to not disturb inner peace and relational harmony. For Brahman children, feeling angry is acceptable if it is adaptive in overcoming obstacles and if it is regulated at the behavioral level.

These studies were based on verbal reports. In my own research, my colleagues and I compared Indian and German preschool children with respect to their observed emotional expression in a frustrating situation. The children expected to receive a present but found only an empty box. Indian children exhibited significantly lower levels of disappointment and anger and also recovered more successfully to an emotionally balanced behavior in comparison with German children. Indian mothers downplayed the frustrating situation and supported their child's acceptance of the situation in contrast to German mothers who mirrored their children's anger reactions in line with the cultural model of self assertive agency (Trommsdorff, Mishra, Suchodoletz, Merkel, & Heikamp, 2009). In other studies, we compared Japanese and German preschool children's processes of emotion regulation in distressing and frustrating situations and found similar results with respect to socialization conditions (Trommsdorff & Friedlmeier, in press). German children were socialized according to the cultural model of agency allowing for the expression of frustration and anger as instrumental for asserting one's own needs and one's intention to achieve these goals. In contrast, Indian and Japanese children were socialized according to the cultural model of interdependence, which endorses interpersonal harmony and discourages the experience and expression of frustration and anger (Trommsdorff, 2006).

Although the cultural socialization of emotions is not yet well understood, it can be assumed that the cultural model of agency influences both emotional development and development of different methods of emotion regulation, in line with the cultural model of agency. Therefore, more culture sensitive comparative studies are needed to determine universal and culture specific aspects of emotion regulation.

Self-regulation as interpersonal regulation

Emotions and their regulation have important social functions that may be connected to another domain of self regulation—interpersonal regulatory behavior. Getting along with others requires interpersonal self regulation that is in line with cultural values, rules, and norms. “In general, self regulation is positively associated with the tendency to respond in an accommodating manner” (Gailliot, Mead, & Baumeister, 2008, p. 484). However, cultural differences in interpersonal regulation are likely related to the respective cultural model of agency.

One important aspect of cultural differences in interpersonal self regulation is the different prevalence of interpersonally engaging and disengaging emotions as related to the

independent or interdependent model of self (Kitayama, Markus, & Kurokawa, 2000). For instance, in a context where the interdependent model of self prevails, empathy is experienced as positive emotion. Empathy is motivated by the need for relatedness; it allows becoming aware of the needs of others, accommodating others, and enjoying the positive feeling of belonging. In this context, the development of self regulation is organized according to the value of maintaining harmony. For example, Japanese children learn sensitivity in interpersonal self regulation through early mother–child interactions. They experience their mothers’ sensitivity and learn to empathize and feel with others by focusing their attention on the needs of other persons (Dennis, Cole, Zahn Waxler, & Mizuta, 2002; Friedlmeier & Trommsdorff, 1999; Rothbaum, Pott, Azuma, Miyake, & Weisz, 2000; Trommsdorff, 1995; Trommsdorff & Kornadt, 2003).

Giving priority to the development of empathy and the ability to meet others’ expectations is necessary for interpersonal self regulation in the cultural model of the interdependent agency. This can be seen as a mechanism for culture specific socialization processes. In the case of the cultural model of interdependent agency, self regulation is closely connected to fulfilling the social expectations. Otherwise, shame feelings and the fear of possible separation arise (Trommsdorff & Rothbaum, 2008). On the basis of the experience of the symbiotic mother–child relation, the fulfillment of basic needs of belonging are related to a belief in the trustworthiness of the parents’ values, order, and rules. In a cultural context of interdependence, such rules are understood as guiding, caring, and supporting the child (see Chao & Tseng, 2002, for China). The self reported positive evaluations of parental control of Japanese adolescents, as compared with the German adolescents, support this interpretation (Trommsdorff, 1985). Therefore, in the interdependent model of agency, social rules are experienced as supporting one’s self regulation. Self regulation based on internalized rules of significant others is experienced as voluntary and as fulfilling needs for relatedness as well as autonomy.

In contrast, in the case of the independent model of agency, rules, obligations, and external control can be experienced as undermining voluntary self regulation and as a threat to one’s need for autonomy. Accordingly, the dominant model of agency and the respective meaning given to autonomy and relatedness define under which conditions the development of self regulation is fostered or hampered by rules and obligations.

Effects of cultural models of agency on interpersonal self regulation can be observed in various other phenomena, such as social support. In contrast to European Americans, Asians and Asian Americans avoid explicitly seeking support (Kim, Sherman, & Taylor, 2008). Asian Americans refrain from conveying personal needs and sharing stressful experiences, thus enjoying the “benefits of social support without potential concerns about the relational implications (e.g., losing face, or worrying others) of explicit support use” (Kim, Sherman, & Taylor, 2008, p. 522).

However, for European Americans, the expression of inner thoughts, emotions, and stress is experienced as more effective and beneficial. The prevalent cultural model of independence gives priority to one’s independence without, however, endangering interpersonal relations. The preferred strategies are based on explicit communication including self disclosure, providing support to others, helping in case of need, and negotiating how to reciprocate. For example, explicitly asking for help would be understood as self disclosure communicating trust in others without necessarily burdening obligations. Here, the need for autonomy is moderated by the need for relatedness (Rothbaum & Trommsdorff, 2007).

The giving and receiving of social support as part of interpersonal regulatory behavior depends on the respective cultural model of independence or interdependence. The findings of the aforementioned studies indicate the importance of engaging in

self regulation and interpersonal regulation in a way that is consistent with the given cultural model of agency (see Figure 1).

5. The ‘Cultural Model of Agency and Self-Regulation’

A general question motivating the present research is how culture is related to individual development and self regulation. From a developmental and culture psychological point of view, culture and development are closely interrelated as described by the ‘Cultural Model of Agency and Self Regulation’ (Figure 1). The development of self regulation occurs in a cultural niche that conveys a specific cultural model of agency, either focusing on independence or on interdependence. The respective self construal is related to agency beliefs, which focus on disjoint or on conjoint agency and the preference of individual or social goals of relatedness. According to the prevalent self construals, agency beliefs, goals, and strategies for goal attainment differ, both with respect to promotion or prevention goals and regarding preference of locomotion or assessment mode. Self regulation includes efforts to modify (inhibit or activate) behavior to attain one’s goals. This behavior results in self regulation in the service of self or of relatedness goals (see Figure 1).

When individuals experience cultural values as part of their own values and integrate these into their self system, they will experience the enactment of these values as autonomous (Chirkov, Ryan, & Willness, 2005; Ryan & Deci, 2008). Once cultural values and social rules are accepted, a person can more easily adjust his or her goals and behavior accordingly, thus developing a competence and motivation for self regulation in line with the respective cultural model. This contributes to a cultural fit and also explains how the development of self regulation can bridge the cultural values and individual goals. The development of self regulation can thus be seen as a process whereby adaptive outcomes are achieved in line with the respective dominant cultural model of the agency.

However, caveats have to be mentioned. The ‘Cultural Model of Agency and Self Regulation’ needs empirical testing, especially regarding the developmental processes linking culture and self regulation. Also, the ongoing changes in the (direct and indirect) relationships between culture and self regulation should be studied in more detail. For example, in times of socioeconomic transition and in case of normative and non normative life events, new modes of self regulation may have to be acquired which in turn affect the cultural meaning system, the related cultural model of the agency, and values for self regulation. Here, bidirectional processes between the cultural model of the agency and self regulation may be observed.

Therefore, to better understand the developmental conditions and functions of self regulation over time, culturally sensitive, comparative developmental studies that take into account processes of sociocultural change are needed.

Author Note

Gisela Trommsdorff, Department of Psychology, University of Konstanz, Germany. This research was supported by a grant from the German Research Foundation (DFG GZ, TR 169/14 2) as part of the project ‘Developmental Conditions of Intentionality and its Limits’ and part of the Interdisciplinary Research Center ‘Limits of Intentionality’ at the University of Konstanz.

The author is especially grateful to Fred Rothbaum for his thoughtful comments and critical questions on these issues. Special thanks are also due to Tobias Heikamp for his valuable comments and to Holly Bunje for assistance in editing the manuscript.

Short Biography

Gisela Trommsdorff's research is located at the intersection of developmental, social, and cultural psychology. She has authored or co authored papers in these areas for the *Handbook of Socialization*, *International Journal of Behavioral Development*, *Journal of Cross-Cultural Psychology*, *European Journal of Developmental Psychology*, *Asian Journal of Social Psychology*, *Applied Psychology*, and *Current Sociology*. She has co edited a three volume encyclopaedia on cross cultural psychology which included chapters on theoretical, methodological, developmental, social, and applied aspects. In the co edited special issue of *Applied Psychology*, and the volume *The Value of Children in Cross-Cultural Perspective*, changes in family values and intergenerational relations are dealt with. Current research involves both theoretical and empirical culture informed studies on parent-child relations over the life span, development of emotions and prosocial behavior, and value orientations of adolescents. She has held fellowships, for example, from the Japan Society for the Promotion of Science (JSPS), the Japan Foundation, Monbusho, Keio University, Tokyo, and Kansai University, Osaka. As professor of developmental and cross cultural psychology at the University of Konstanz, she is involved in several cross cultural and interdisciplinary research projects. She was teaching previously at the Technical University of Aachen. She holds a Dr. Phil. and a *venia legendi* from the University of Mannheim, and has recently been appointed research professor at the German Institute of Economic Research, Berlin, while serving in several international advisory committees.

Endnote

* Correspondence address: Universitätsstraße 10, Konstanz, Germany, 78457. Email: Gisela.Trommsdorff@uni-konstanz.de

References

- Bandura, A. (1997). *Self-Efficacy: The Exercise of Control*. New York: Freeman.
- Bandura, A. (2001). Social cognitive theory: An agentic perspective. *Annual Review of Psychology*, **52**, 1–26.
- Baumeister, R. F., & Vohs, K. D. (2007). Self-regulation, ego depletion, and motivation. *Social and Personality Psychology Compass*, **1**, 115–128.
- Baumeister, R. F., Zell, A. L., & Tice, D. M. (2007). How emotions facilitate and impair self-regulation. In J. J. Gross (Ed.), *Handbook of Emotion Regulation* (pp. 408–426). New York: Guilford.
- Berry, J. W. (1976). *Cross-Cultural Research and Methodology Series: III. Human Ecology and Cognitive Style: Comparative Studies in Cultural and Psychological Adaptation*. New York: Wiley.
- Bischof-Köhler, D. (2000). *Kinder auf Zeitreise: Theory of Mind, Zeitverständnis und Handlungsorganisation [Children's Mental Time Travel: Theory of Mind, Concept of Time, and the Organization of Action]*. Bern, Switzerland: Huber.
- Bond, M. H. (2004). Culture and aggression: From context to coercion. *Personality and Social Psychology Review*, **8**, 62–78.
- Bowlby, J. (1969). *Attachment and Loss: Vol. 1. Attachment*. London: Hogarth Press.
- Bronfenbrenner, U. (1979). *The Ecology of Human Development: Experiments by Nature and Design*. Cambridge, MA: Harvard University Press.
- Bruner, J. S. (1990). Culture and human development: A new look. *Human Development*, **33**, 344–355.
- Bruner, J. S. (1996). *The Culture of Education*. Cambridge, MA: Harvard University Press.
- Calero, M. D., García-Martín, M. B., Jiménez, M. I., Kazén, M., & Araque, A. (2007). Self-regulation advantage for high-IQ children: Findings from a research study. *Learning and Individual Differences*, **17**, 328–343.
- Chao, R., & Tseng, V. (2002). Parenting of Asians. In M. H. Bornstein (Ed.), *Handbook of Parenting: Vol. 4. Social Conditions and Applied Parenting* (2nd edn., pp. 59–93). Mahwah, NJ: Erlbaum.
- Chirkov, V. I., Ryan, R. M., & Willness, C. (2005). Cultural context and psychological needs in Canada and Brazil: Testing a self-determination approach to the internalization of cultural practices, identity, and well-being. *Journal of Cross-Cultural Psychology*, **36**, 423–443.
- Cole, M. (1996). *Cultural Psychology: A Once and Future Discipline*. Cambridge, MA: Harvard University Press.

- Cole, P. M., Martin, S. E., & Dennis, T. A. (2004). Emotion regulation as a scientific construct: Methodological challenges and directions for child development research. *Child Development*, **75**, 317–333.
- Cole, P. M., & Tamang, B. L. (1998). Nepali children's ideas about emotional displays in hypothetical challenges. *Developmental Psychology*, **34**, 640–646.
- Cole, P. M., Tamang, B. L., & Shrestha, S. (2006). Cultural variations in the socialization of young children's anger and shame. *Child Development*, **77**, 1237–1251.
- Cole, P. M., Walker, A. R., & Lama-Tamang, M. S. (2006). Emotional aspects of peer relations among children in rural Nepal. In X. Chen, D. C. French & B. H. Schneider (Eds.), *Peer Relationships in Cultural Context* (pp. 148–169). New York: Cambridge University Press.
- Dennis, T. A., Cole, P. M., Zahn-Waxler, C., & Mizuta, I. (2002). Self in context: Autonomy and relatedness in Japanese and U.S. mother preschooler dyads. *Child Development*, **73**, 1803–1817.
- Eisenberg, N., Fabes, R. A., & Guthrie, I. K. (1997). Coping with stress: The roles of regulation and development. In S. A. Wolchik & I. N. Sandler (Eds.), *Handbook of Children's Coping: Linking Theory and Intervention* (pp. 41–70). New York: Plenum.
- Eisenberg, N., & Zhou, Q. (2000). Regulation from a developmental perspective. *Psychological Inquiry*, **11**, 166–171.
- Friedlmeier, W., & Trommsdorff, G. (1999). Emotion regulation in early childhood: A cross-cultural comparison between German and Japanese toddlers. *Journal of Cross-Cultural Psychology*, **30**, 684–711.
- Gailliot, M. T., Mead, N. L., & Baumeister, R. F. (2008). Self-control. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of Personality: Theory and Research* (3rd edn., pp. 472–491). New York: Guilford Press.
- Gollwitzer, P. M., & Bargh, J. A. (2005). Automaticity in goal pursuit. In A. Elliot & C. Dweck (Eds.), *Handbook of competence and motivation* (pp. 624–646). New York: Guilford.
- Grusec, J. E., & Goodnow, J. J. (1994). Impact of parental discipline methods on the child's internalization of values: A reconceptualization of current points of view. *Developmental Psychology*, **30**, 4–19.
- Heckhausen, H. (1991). *Motivation and Action* (translated by P. K. Leppmann). Berlin, Germany: Springer.
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, **52**, 1280–1300.
- Higgins, E. T. (1998). Promotion and prevention: Regulatory focus as a motivational principle. In M. P. Zanna (Ed.), *Advances in Experimental Social Psychology*, Vol. 30 (pp. 1–46). San Diego, CA: Academic.
- Higgins, E. T. (2008). Culture and personality: Variability across universal motives as the missing link. *Social and Personality Psychology Compass*, **2**, 608–634.
- Higgins, E. T., Pierro, A., & Kruglanski, A. W. (2008). Re-thinking culture and personality: How self-regulatory universals create cross-cultural differences. In R. M. Sorrentino & S. Yamaguchi (Eds.), *Motivation and Cognition Across Cultures* (pp. 161–190). Amsterdam: Academic.
- Iyengar, S. S., & Lepper, M. R. (1999). Rethinking the value of choice: A cultural perspective on intrinsic motivation. *Journal of Personality & Social Psychology*, **76**, 349–366.
- Kim, U., & Park, Y.-S. (2006). Indigenous psychological analysis of academic achievement in Korea: The influence of self-efficacy, parents, and culture. *International Journal of Psychology*, **41**, 287–292.
- Kim, H. S., Sherman, D. K., & Taylor, S. E. (2008). Culture and social support. *American Psychologist*, **63**, 518–526.
- Kitayama, S. (2000). Collective construction of the self and social relationships: A rejoinder and some extensions. *Child Development*, **71**, 1143–1146.
- Kitayama, S., Markus, H. R., & Kurokawa, M. (2000). Culture, emotion, and well-being: Good feelings in Japan and the United States. *Cognition and Emotion*, **14**, 93–124.
- Kitayama, S., & Uchida, Y. (2005). Interdependent agency: An alternative system for action. In R. M. Sorrentino, D. Cohen, J. M. Olson & M. P. Zanna (Eds.), *Cultural and Social Behavior: The Ontario Symposium*, Vol. 10 (pp. 137–164). Mahwah, NJ: Erlbaum.
- Kochanska, G., Murray, K., Jacques, T. Y., Koenig, A. L., & Vandegest, A. (1996). Inhibitory control in young children and its role in emerging internalization. *Child Development*, **67**, 490–507.
- Laible, D. J., & Thompson, R. A. (2000). Mother child discourse, attachment security, shared positive affect, and early conscience development. *Child Development*, **71**, 1424–1440.
- Markus, H. R., & Hamedani, M. G. (2007). Sociocultural psychology: The dynamic interdependence among self systems and social systems. In S. Kitayama & D. Cohen (Eds.), *Handbook of Cultural Psychology* (pp. 3–39). New York: Guilford Press.
- Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review*, **98**, 224–253.
- Markus, H. R., & Kitayama, S. (2003). Models of agency: Sociocultural diversity in the construction of action. In V. Murphy-Berman & J. Berman Lincoln (Eds.), *The 49th Annual Nebraska Symposium on Motivation: Cross-Cultural Differences in Perspectives on Self* (pp. 1–57). Lincoln: University of Nebraska Press.
- Mischel, W., & Ayduk, O. (2004). Willpower in a cognitive-affective processing system. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of Self-Regulation: Research, Theory, and Applications* (pp. 99–129). New York: Guilford.
- Mischel, W., Shoda, Y., & Rodriguez, M. L. (1989). Delay of gratification in children. *Science*, **244**, 933–938.

- Morelli, G. A., & Rothbaum, F. (2007). Situating the person in relationships: Attachment relationships and self-regulation in young children. In S. Kitayama & D. Cohen (Eds.), *Handbook of Cultural Psychology* (pp. 500-527). New York: Guilford Press.
- Morling, B., & Evered, S. (2006). Secondary control reviewed and defined. *Psychological Bulletin*, **132**, 269-296.
- Morling, B., & Kitayama, S. (2008). Culture and motivation. In J. Y. Shah & W. L. Gardner (Eds.), *Handbook of Motivation Science* (pp. 417-433). New York: Guilford Press.
- Oyserman, D., & Markus, H. R. (1993). The sociocultural self. In J. M. Suls (Ed.), *The Self in Social Perspective* (pp. 187-220). Hillsdale, NJ: Erlbaum.
- Rothbart, M. K., Ellis, L. K., & Posner, M. I. (2004). Temperament and self-regulation. In R. F. Baumeister & K. D. Vohs (Eds.), *Handbook of Self-Regulation: Research, Theory, and Applications* (pp. 357-370). New York: Guilford.
- Rothbaum, F., Pott, M., Azuma, H., Miyake, K., & Weisz, J. (2000). The development of close relationships in Japan and the United States: Paths of symbiotic harmony and generative tension. *Child Development*, **71**, 1121-1142.
- Rothbaum, F., & Trommsdorff, G. (2007). Do roots and wings complement or oppose one another? The socialization of relatedness and autonomy in cultural context. In J. E. Grusec & P. Hastings (Eds.), *The Handbook of Socialization* (pp. 461-489). New York: Guilford Press.
- Rothbaum, F., Weisz, J. R., & Snyder, S. S. (1982). Changing the world and changing the self: A two-process model of perceived control. *Journal of Personality and Social Psychology*, **42**, 5-37.
- Ryan, R. M., & Deci, E. L. (2002). Overview of self-determination theory: An organismic-dialectical perspective. In E. L. Deci & R. M. Ryan (Eds.), *Handbook of Self-Determination Research* (pp. 3-33). Rochester, NY: University of Rochester Press.
- Ryan, R. M., & Deci, E. L. (2008). Self-determination theory and the role of basic psychological needs in personality and the organization of behaviour. In O. P. John, R. W. Robins & L. A. Pervin (Eds.), *Handbook of Personality: Theory and Research* (3rd edn., pp. 654-678). New York: Guilford.
- Shweder, R. A. (1990). Cultural psychology: What is it? In J. W. Stigler, R. A. Shweder & G. Herdt (Eds.), *Cultural Psychology: Essays on Comparative Human Development* (pp. 1-43). Cambridge, England: Cambridge University Press.
- Super, C. M., & Harkness, S. (1997). The cultural structuring of child development. In J. W. Berry, P. R. Dasen & T. S. Saraswathi (Eds.), *Handbook of Cross-Cultural Psychology: Vol. 2. Basic Processes and Human Development* (2nd edn., pp. 1-39). Boston: Allyn & Bacon.
- Thompson, R. A. (1994). Emotion regulation: A theme in search of definition. In N. A. Fox (Ed.), *The Development of Emotion Regulation: Biological and Behavioural Considerations. Monographs of the Society for Research in Child Development* (Vol. 59, Issue 2-3, Series 240, pp. 25-52). Chicago, IL: University of Chicago Press.
- Tomasello, M. (1999). Having intentions, understanding intentions, and understanding communicative intentions. In P. D. Zelazo, J. W. Astington & D. R. Olson (Eds.), *Developing Theories of Intention: Social Understanding and Self-Control* (pp. 63-75). Mahwah, NJ: Erlbaum.
- Tomasello, M., Carpenter, M., Call, J., Behne, T., & Moll, H. (2005). Understanding and sharing intentions: The origins of cultural cognition. *Behavioral and Brain Sciences*, **28**, 675-735.
- Tracy, J. L., & Matsumoto, D. (2008). The spontaneous expression of pride and shame: Evidence for biologically innate nonverbal displays. *Proceedings of the National Academy of Sciences*, **105**, 11655-11660.
- Trommsdorff, G. (1985). Some comparative aspects of socialization in Japan and Germany. In I. Reyes Lagunes & Y. H. Poortinga (Eds.), *From a Different Perspective: Studies of Behavior Across Cultures* (pp. 231-240). Amsterdam: Swets & Zeitlinger.
- Trommsdorff, G. (1995). Person context relations as developmental conditions for empathy and prosocial action: A cross-cultural analysis. In T. A. Kindermann & J. Valsiner (Eds.), *Development of Person Context Relations* (pp. 113-146). Hillsdale, NJ: Erlbaum.
- Trommsdorff, G. (2006). Development of emotions as organized by culture. *ISSBD Newsletter*, **49**, 1-4.
- Trommsdorff, G. (2007a). Entwicklung im kulturellen Kontext [Development in cultural context]. In G. Trommsdorff & H.-J. Kornadt (Eds.), *Enzyklopädie der Psychologie: Themenbereich C Theorie und Forschung, Serie VII Kulturvergleichende Psychologie. Band 2: Kulturelle Determination des Erlebens und Verhaltens [Encyclopedia of Psychology: Theme Theory and Research Series VII: Cross-Cultural Psychology and Cultural Determinants of Thinking and Behavior* (pp. 435-519). Göttingen, Germany: Hogrefe.
- Trommsdorff, G. (2007b). Intentionality of actions in cultural context. In J. Wassmann & K. Stockhaus (Eds.), *Experiencing New Worlds*, Vol. 1 (pp. 85-113). New York: Berghahn.
- Trommsdorff, G. (2009). Cultural transmission: Developmental, psychological, social and methodological perspectives. In U. Schönplüg (Ed.), *Cultural Transmission: Psychological, Developmental, Social, and Methodological Aspects* (pp. 126-160). Cambridge, England: Cambridge University Press.
- Trommsdorff, G. (in press). Socialization of self-regulation for achievement in cultural context: A developmental-psychological perspective on the Asian miracle. In U. Kim & Y.-S. Park (Eds.), *Asia's Educational Miracle: Psychological, Social, and Cultural Perspectives*. New York: Springer.

- Trommsdorff, G., & Friedlmeier, W. (1993). Control behavior and responsiveness in Japanese and German mothers. *Early Development and Parenting*, *2*, 65–78.
- Trommsdorff, G., & Friedlmeier, W. (in press). Preschool girls' distress and mothers' sensitivity in Japan and Germany. *European Journal of Developmental Psychology*.
- Trommsdorff, G., & Kornadt, H.-J. (2003). Parent child relations in cross-cultural perspective. In L. Kuczynski (Ed.), *Handbook of Dynamics in Parent-Child Relations* (pp. 271–306). Thousand Oaks, CA: Sage.
- Trommsdorff, G., Mishra, R. C., Suchodoletz, A. V., Merkel, F., & Heikamp, T. (2009). [Emotion regulation of Indian and German preschool children]. Unpublished raw data. Konstanz, Germany: University of Konstanz.
- Trommsdorff, G., & Rothbaum, F. (2008). Development of emotion regulation in cultural context. In M. Vandekerckhove, C. von Scheve, S. Ismer, S. Jung & S. Kronast (Eds.), *Regulating Emotions: Culture, Social Necessity, and Biological Inheritance* (pp. 85–120). Malden, MA: Blackwell.
- Weisz, J. R., Rothbaum, F. M., & Blackburn, T. C. (1984). Standing out and standing in: The psychology of control in America and Japan. *American Psychologist*, *39*, 955–969.
- Whiting, B. B., & Whiting, J. W. M. (1975). *Children of Six Cultures: A Psycho-Cultural Analysis*. Cambridge, MA: Harvard University Press.