

Refining our understanding of the influence of culture on human development: A situated cognition approach

Ionuț-Sergiu MONE^{1,*}, Oana BENGA¹

ABSTRACT. In the present paper, we discuss the theoretical and methodological benefits of refining the current models which are focused on the influence of culture on human development based on theoretical models and empirical findings which stem from the situated cognition approach on culture. Firstly, to illustrate the current approach on culture and human development, we review the Ecocultural Model of Development, which focuses on the manner in which caregivers' cultural models are associated with their parental beliefs (i.e., socialization goals and parental ethnotheories), their parental practices and ultimately with the child's development. Secondly, we explore two models based on a situated cognition approach: the Cultural Task analysis model and the Culture as Situated Cognition approach. Based on the assumptions of these models and findings from our own lab, we discuss how we can theoretically refine current models which focus on the influence of culture on human development, and what methodological approaches these refinements can lead us to. In the paper we also outline several avenues for future research that stem from the reconceptualization of the influence of culture on human development, from a situated cognition perspective.

Keywords: culture; human development; situated cognition; parental beliefs; cultural models

ZUSAMMENFASSUNG. In dem vorliegenden Aufsatz werden wir die theoretischen und methodologischen Vorteile der Verfeinerung der gegenwärtigen Modelle erörtern, die sich auf den Einfluss von Kultur auf die menschliche Entwicklung konzentrieren, basierend auf Erkenntnissen, die aus dem Ansatz der situierten Kognition zur Kultur stammen. Zunächst werden wir zur Veranschaulichung

¹ Developmental Psychology Laboratory, Department of Psychology, Babeș-Bolyai University, Cluj-Napoca, Romania.

* Corresponding author: ionutmone@psychology.ro



des aktuellen Ansatzes zur Kultur und menschlichen Entwicklung das Ökokulturelle Entwicklungsmodell erörtern, das sich darauf konzentriert, wie kulturelle Modelle der Betreuungspersonen mit ihren elterlichen Überzeugungen, einschließlich Sozialisationsziele und elterliche Ethnotheorien, ihren elterlichen Praktiken und letztendlich mit der kindlichen Entwicklung verknüpft sind. Zweitens werden wir zwei Modelle erörtern, die auf einem Ansatz zur situierten Kognition beruhen: das Modell der kulturellen Aufgabenanalyse und den Ansatz 'Kultur als situierte Kognition'. Basierend auf den Annahmen dieser Modelle und den Ergebnissen aus unserem eigenen Forschungslabor werden wir erörtern, wie wir theoretisch bestehende Modelle verbessern können, die sich auf den Einfluss von Kultur auf die menschliche Entwicklung konzentrieren, und welche methodischen Ansätze uns diese Verfeinerungen ermöglichen können. In der Arbeit hervorheben wir außerdem mehrere Ansätze für zukünftige Forschung, die sich aus der Neukonzeption des Einflusses von Kultur auf die menschliche Entwicklung aus einer Perspektive der situierten Kognition ergeben.

Schlüsselwörter: Kultur; menschliche Entwicklung; situierte Kognition; elterliche Überzeugungen; kulturelle Modelle

Introduction

Human development does not follow a universal trajectory but is influenced by the cultural context in which it takes place (Arnett, Chapin, & Brownlow, 2018; Broesch et al., 2023; Harkness & Super, 2020). Out of the many factors that might be associated with these cross-cultural variations, the parental beliefs of caregivers have been identified as an important factor (Greenfield, 2018; Kagitcibasi, 2017; Keller & Kartner, 2013; Lin et al., 2023; Super & Harkness, 1986). Parental beliefs are associated with the parental practices caregivers utilize, the manner in which they shape the context of the child and, ultimately, with the way the child develops (Keller & Kartner, 2013; Super & Harkness, 2002; Nsamenang, 2015; Weisner, 2002, Worthman, 2016).

Most of the current theoretical models that focus on parental beliefs as an important factor associated with cross-cultural variations in development also postulate that these beliefs are influenced by the cultural models (i.e., explicit beliefs like values or self-construals that are shared by the members of a community) that characterize caregivers from a certain community (ex., Greenfield, 2018; Keller, 2022; Mone & Benga, 2022). In the following, we will present one of the theoretical frameworks which has guided our own research and which postulates that caregivers' parental beliefs are influenced by their cultural models, namely the Ecocultural Model of Development (Keller &

Kartner, 2013). Subsequently, based on extant theoretical models, current findings, and our own research, we will discuss how these models could be improved by also taking into consideration situational influences and variability in parental cultural models and beliefs, as well as the implicit components of caregivers' cultural models. Moreover, we will discuss methodological approaches for manipulating situational factors that might influence parental cultural models and for assessing implicit components of parental cultural models, respectively, along with potential theoretical and practical benefits associated.

The Ecocultural Model of Development

The Ecocultural Model of Development states that the ecosocial context of individuals (i.e., resources and constraints of the environment in which a community lives and the socioeconomic structure of a population; Keller & Karter, 2013) influences the child's development directly, as well as indirectly, through its influence on caregivers' cultural models, socialization goals (i.e., objectives that parents set for their children's development; Suizzo, 2007), parental ethnotheories (i.e., beliefs shared by members of a community about children and their development, parenting practices and family functioning, Harkness et al., 2010), and parenting practices. Such indirect influence is achieved through the constraints and opportunities existent in the environment in which the child develops (e.g., the tasks and situations that are available in a community). It is important to emphasize the Ecocultural Model of Development does not assume that the child is a passive recipient of the environmental influences, but that he/she also influences how parents interact with him/her. Moreover, this theoretical framework suggests that children's development further influences how culture evolves (Keller, 2022).

The framework postulates that different cultural models are adaptive in different ecosocial contexts and thus, more prevalent (Keller & Karter, 2013). In this specific case, as an index of caregivers' cultural model, we focus on caregivers' self-construal. Caregivers' self-construal is a component of their cultural model that is relevant for predicting parental socialization goals, parenting ethnotheories and parenting practices (Corapci et al., 2018; Kagitcibasi, 2017; Kocayörük et al., 2023; Li et al., 2018; Raval et al., 2018; Zhu, 2019). Kagitcibasi (2017) states that there are two dimensions, agency and interpersonal distance, which combine to form four types of self-construals. Agency refers to the degree to which an individual defines himself as functioning autonomously and can vary between autonomy (i.e., defining oneself as functioning on the basis of one's will, purposes and motivations) and heteronomy (i.e., defining oneself as functioning on the basis of external influences, acting as a function of social norms and pressure; Kagitcibasi, 2013). Interpersonal distance refers to the degree to which an

individual sees himself/herself as being distant from others and it can vary between separateness (i.e., a self that is distinct and separate from others) and relatedness (i.e., a self that is connected to others and defined as a function of the relational network in which it is included, Kagitcibasi, 2017). Out of the combination of these two dimensions, we obtain four cultural models: the cultural model of independence (a combination of autonomy and separateness), the cultural model of interdependence (a combination of heteronomy and relatedness), the cultural model of autonomous-relatedness (a combination of autonomy and relatedness), and the cultural model of heteronomous-separateness (a combination of heteronomy and separateness).

As we mentioned before, these cultural models tend to appear more frequently in certain ecosocial contexts. For example, in urban communities from Western societies characterized by market economy, where there is a high level of income and education, where nuclear families are more common and where parents tend to have children at older ages, the independent cultural model is more frequent (Keller & Kartner, 2013). In rural communities characterized by subsistence economy, where there is a low level of income and education, where extended families are more common and where parents tend to have children at younger ages, the interdependent cultural models tends to appear more frequently (Keller & Kartner, 2013). In former Collectivistic societies, exposed to quick social and economic transitions and development, an autonomous-relatedness cultural model tends to appear more frequently (Kagitcibasi, 2017; Mone & Benga, 2018). In regard to the last cultural model, that of heteronomous-separateness, it has been presumed to be more frequent in totalitarian regimes, but its specific manifestation and associated ecosocial context has not been explored theoretically or empirically.

Caregivers' cultural models are assumed to be associated with their socialization goals. For example, mothers with independent cultural models (e.g., mothers from urban communities in Germany, the U.S.A. and Greece) more frequently value socialization goals that focus on autonomy (e.g., self-reliance, self-fulfillment, having a sense of purpose) and separateness (e.g., uniqueness, independence; Keller et al., 2006; Keller, 2018). Parents with interdependent cultural models (e.g., mothers from rural communities in Cameroon or India) tend to more frequently focus on socialization goals that pertain to heteronomy (e.g., obedience, filial piety) and relatedness (e.g., loyalty, harmonious interaction, Keller et al., 2006; Keller, 2018). Parents with autonomous-relatedness cultural models (e.g., mothers from urban communities in Turkey, Romania, Costa Rica) value socialization goals pertaining to both autonomy and relatedness (Keller et al., 2006; Keller, 2018; Mone, Benga, & Susa, 2014).

Caregivers' socialization goals also influence and shape their parental ethnotheories, especially their beliefs regarding optimal parenting practices

(Kankaanpaa et al., 2020; Mone & Benga, 2022; Putnam et al., 2018). More specifically, extant studies suggest that parents tend to value or to consider optimal those parenting practices that are conducive to their socialization goals. For example, caregivers of infants with an interdependent cultural model, which focus on socialization goals pertaining to heteronomy or relatedness, tend to consider as being optimal those parenting practices that can facilitate the attainment of such socialization goals (e.g., body contact, body stimulation, Keller et al., 2006).

The Ecocultural Model of Development also assumes that caregivers' parental ethnotheories are associated with the parental practices they employ, which then influence how the child develops (Keller & Kartner, 2013; Majdandzic et al., 2019).

Limitations of current models

Although the Ecocultural Model of Development is of great value for understanding and guiding research focused on the influence of culture on parental beliefs, there are several limitations which derive from this as well as other similar theoretical frameworks, that explain the influence of culture on parental beliefs through its influence on caregivers' cultural models, defined as a set of stable, shared explicit beliefs.

As a first limitation, it has proved difficult to predict parental beliefs and practices based on parents' cultural models, indexed via their explicitly endorsed values or self-construal (Mone, Ionescu, & Benga, 2014). Leung and Morris (2015) also emphasize that the value approach to culture has been limited in explaining differences between cultures in diverse domains, not just that of parental beliefs and behaviours. This might have been influenced by the fact that most of the conceptualizations and measurement strategies used by extant studies have ignored that the influence of self-construals or internally held values on parents' behaviour might be moderated by situational constraints. This state of affairs might have led to an underestimation of the relationship between these explicit beliefs and parental practices. To further this point, Yamagishi, Hashimoto, and Schug (2008) present a series of studies which suggest that individuals from different cultures have different available strategies to act in different situations, and that the way they behave in a specific situation can be a response to how they construe the situation and how they expect others to react to their behaviour. These studies suggest that individuals' behaviour in certain situations is not a result of their internal preferences/values or cultural models, but of the situational constraints they perceive. This has also been shown to apply to maternal behaviour. As such, mothers of preschoolers who generally would value the promotion of autonomy tend to act in a more controlling fashion when

they are in a situation in which they consider that others assess their performance as caregivers based on the behaviour of their child (Grolnick et al., 2007).

The difficulty in predicting parental beliefs and practices based on caregivers' cultural models might also stem from an exclusive focus on the explicit components of mothers' cultural models. Kitayama et al. (2009) provide results which suggest that the implicit components of individuals' cultural model can better predict their cultural belonging. Moreover, as we will show below, taking into consideration the implicit components of mothers' cultural models, not just the explicit components, can lead to results which point to discrepancies between the two components, also suggesting they might be differentially impacted by the socio-economic context in which the caregivers function (Mone & Benga, 2022).

Secondly, the assumption that such cultural models are shared between members of a community seems to be problematic, because studies have shown, for example regarding cultural values, that there are greater differences within versus between countries (Fischer & Schwarts, 2011). This implies that focusing on cultural models as an explanation for cross-cultural differences in parental beliefs would not be fruitful. However, taking into account situational influences on cultural models can help us move past this apparent difficulty. More specifically, taking into account situational influences on caregivers' cultural models helps us accommodate findings of intercultural differences, but also findings which emphasize intracultural variability (Leung & Morris, 2014). More specifically, models like the Culture as Situated Cognition framework (Oyserman, 2016) postulate that different situations within a culture can prime different types of cultural models or schemas. However, there are differences between cultures regarding the types of situations we are most frequently exposed to and, thus, the cultural model that is chronically activated (Oyserman, 2020). As such, the fact that some studies evidenced intracultural variability in cultural models should not deter us from taking this variable into consideration when trying to predict cross-cultural variations in parental beliefs. However, we should gain a better understanding of the situational mechanisms that influence what type of cultural model is active and the degree to which our cultural model translates into behavior.

Thirdly, and related to the aforementioned limitations, the assumption that parental cultural models are trait-like characteristics is not supported by recent research (Leung & Morris, 2014), which suggests that the cultural models or values guiding individual's behaviour can vary situationally (Osland & Bird, 2002; Lin, Zhang, & Oyserman, 2021). In accordance with this, the Situated Cognition approach (Oyserman, 2017) and the studies which tested its core assumptions, have provided evidence suggesting these cultural models are not

trait-like characteristics of individuals from different cultures. In contrast, it appears that individuals from different cultures have available different cultural models, which can be activated by the characteristics of the situation in which they function.

To address the limitations described above, in the following, we will present two theoretical frameworks which take a situated cognition approach to analysing cultural models. Based on these, we will discuss how we can improve extant theoretical frameworks which focus on the relationship between culture and parental cultural models and beliefs. Moreover, we will present results from existing literature and from our own research suggesting specific conceptual and methodologic ways in which situational factors can be taken into account when analysing the influence of parental cultural models on parental beliefs.

Cultural Task Analysis

The first theoretical framework we introduce is The Cultural Task Analysis model (Kitayama & Imada, 2010). This theoretical framework focuses on the manner in which cultural imperatives or mandates influence the psychological tendencies that develop amongst the members of a culture via the cultural tasks in which they habitually engage.

In this theoretical framework, cultural mandates are viewed as those ideals, goals or purposes that are prioritised and shared in a cultural group. In Individualistic cultures, for example, one would consider autonomy or independence a cultural mandate. In Collectivist cultures, heteronomy or interdependence would be considered a cultural mandate (Kitayama & Imada, 2010; Kitayama et al., 2022).

Cultural tasks refer to culturally sanctioned procedures through which the members of a group can achieve the cultural mandates. For example, in Individualistic cultures, where independence is a cultural mandate, individuals can achieve this mandate through several cultural tasks: expressing unique traits of oneself, self-promotion or pursuing personal endorsed objectives (Kim & Markus, 1999; Oishi & Diener, 2001). In Collectivistic cultures, in which interdependence is a cultural mandate, individuals can reach this mandate through engaging in several cultural tasks: harmoniously interacting with others, self-effacing, and pursuing group sanctioned goals (Kitayama et al., 2009). It is important to mention that this theoretical framework can also account for intracultural variability between individuals. More specifically, although some cultural mandates might be relevant for all individuals from a group, the same cultural mandate can be attained through engaging in diverse cultural tasks or situations. For example, one individual might strive to attain the cultural mandate of independence through engaging in the pursuit of personal goals,

while another individual might focus on self-promotion. This is relevant because, by engaging habitually in different cultural tasks, different automatic psychological tendencies are formed.

The fact that different individuals can attain the cultural mandate through various ways, as a function of the specific situations in which they engage, is also supported by more recent studies. For example, Na et al. (2019) conducted two studies, in which they assessed cultural models and cognitive styles using several measures, with participants from America (N=233) and Japan (N=433; Study 1) and America and Canada (N =485; Study 2), respectively. They found that Americans and Japanese differed on the measured they employed, with Japanese individuals being characterized more by an interdependent cultural model than American participants. Moreover, Japanese individuals tended to process information holistically, focusing on the relationship between stimulus and context, while Americans tended to process information analytically, focusing on a stimulus separately from the context in which it was embedded. However, they found that, across samples, there was a small correlation between measures that purportedly measured the same constructs (i.e., cultural model or cognitive style). Nonetheless, there was intraindividual stability across time regarding a persons' standing on the diverse measures of the cultural models and the cognitive styles. Authors interpreted these results as reflecting the existence of specific behavioral profiles, with different individuals from the same culture manifesting cultural models and cognitive processing styles in different ways and situations.

The final component on which the Cultural Task Analysis framework focuses on, namely the psychological tendencies of individuals, refers to the predispositions that individuals have regarding behaviour, emotions, and cognitive processing (Kitayama & Imada, 2010). The main assumption of Cultural Task Analysis framework is that, by frequently engaging in certain cultural tasks, specific psychological tendencies are formed. When initially engaging in a cultural task, one has to invest effort. However, after repeated and systematic engagement in that cultural task, the procedure required to complete it becomes automatized and completing the task no longer requires effort (Kitayama et al., 2009). As such, habitual engagement in a cultural task leads to the formation of a series of automatic psychological tendencies that were of use in completing that cultural task. For example, frequently engaging in cultural tasks that are focused on achieving the cultural mandate of independence (ex., self-promotion or following a personal goal) requires that one uses specific cognitive processes. More specifically, one has to direct his/her attention to stimuli which are relevant for personal goals, to make decontextualized decisions or to separates oneself from the social context in which one functions. As such, engaging in

these cultural tasks leads to the development of specific automatic psychological tendencies like attributing others' behaviour to internal characteristics (Kitayama et al., 2009) or focusing attention on an object, separate from the context in which it appears (Masuda & Nisbett, 2001). Other automatic psychological tendencies which might form are the experience of disengaging emotions, like pride (Kitayama et al., 2006) or the perception of the self as consistent, regardless of context (Suh, 2002). By frequently engaging in cultural tasks focused on attaining the cultural mandate of interdependence (ex., harmoniously interacting with others or following groups goals), one develops implicit psychological tendencies that are implicated in the successful completion of these tasks. More precisely, we are referring to tendencies such as: focusing on the relationship between stimuli and the context in which they appear; experiencing socially engaging emotions (e.g. sadness, shame); attributing others' behaviour to context (Kitayama et al., 2009).

These implicit tendencies can be conceptualized as being the implicit component of caregivers' cultural model and they have been shown to predict cultural belonging better than explicit indices (Kitayama et al., 2009; Mone & Benga, 2022).

In the following, we will present a study that was conducted in our laboratory, and we will use it as a starting point for illustrating the heuristic and pragmatic benefits that might derive from modifying our current theoretical frameworks which focus on the influence of culture on development, to also take into consideration these implicit indices of mothers' cultural models.

In the aforementioned study (N=141, Mone & Benga, 2022) we recruited mothers from different ecosocial contexts from Romania. We investigated if mothers's explicit (i.e., values related to autonomy and heteronomy) and implicit (i.e., attributional style) components of agency mediated the relationship between their educational level and socialization goals. Firstly, our results suggested that only the implicit component of agency, a dimension of mothers' cultural model, was related with their socialization goals. More specifically, the more they internally attributed others' behaviour (i.e., an implicit index of the autonomy component of caregivers' cultural model), the less they valued socialization goals related to obedience and tradition. This finding supports previous results (Kitayama et al., 2009), which suggested that implicit components of cultural models can be more helpful than explicit components in differentiating between individuals with different cultural models/individuals from different cultures.

Secondly, our results showed that only the implicit component of agency mediated the relationship between mothers' educational level and their socialization goals. More specifically the results showed that the higher the mothers' educational level, the more they attributed others' behaviour internally and the less they

valued heteronomous socialization goals. The fact that only the implicit component of the cultural model mediated the relationship between educational level and socialization goals was interpreted in light of the fact that Romania is a culture which was exposed to significant social and economic transitions (Mone & Benga, 2018). To better understand why this is relevant, we emphasize the evidence suggesting that in case of such cultures, cultural practices change faster than cultural values. This is important because, as we previously stated, these implicit components of individuals' cultural models are influenced by the habitual engagement in cultural tasks, during which individuals engage in culturally sanctioned practices (Kitayama et al., 2023). As such, if in the case of a society in transition, cultural practices change faster than cultural values, it is to be expected that there will be a faster shift in the case of the implicit components of mothers' cultural models and that this shift will be more aligned with the current socioeconomic context in which the mothers function.

This is a hypothesis that must be explored in future studies, focused on longitudinally testing the effect of these transitions on mothers' cultural models, with an emphasis on both the explicit and implicit components. However, it is important to point out that other studies have obtained results which are congruent with this hypothesis. For example, Thein-Lemelson (2015) showed that, in the case of parents from Burma/Myanmar, a country exposed to important social and economic transitions, there was a discrepancy between parents' explicit socialization goals and their behaviours. For example, some parents explicitly stated that they value obedience in their children. However, they enrolled their children in private schools and promoted the autonomous behaviour of children at home.

Our results suggest that taking into consideration both the explicit and the implicit indices of mothers' cultural models would help us to better understand the way culture influences parental beliefs, practices and, ultimately, human development. In our study, if we hadn't included the implicit component of mothers' cultural models, we might have concluded that their cultural model is not associated with their parental beliefs. However, possibly because of the social and economic shifts Romania has been exposed to, a discrepancy between the explicit and implicit components of caregivers' cultural models emerged and, at least in in this case, the implicit component was the one related to mothers' socialization goals. It is important for future research to test how the explicit and implicit components interact in predicting parental beliefs as well as how different ecosocial contexts are associated with specific explicit and implicit components.

Taking into consideration both the implicit and explicit components also offers us a theoretical and methodological tool to develop a more nuanced understanding of the impact of cultural transitions on mothers' cultural models,

parental beliefs and parental practices, by conceptualizing and quantifying the differential effects of transitions on explicit and implicit components of parents' cultural model.

In addition, including the implicit components of mothers' cultural models in our theoretical framework expands the heuristic value of current theoretical approaches. First, it offers an opportunity to explain discrepant results observed in the literature, such as those of Thein-Lemelson (2015). Thus, to better understand the sources of these discrepancies, we might investigate if there are incongruities between the explicit component of caregivers' cultural model, the activities in which individuals engage and the implicit tendencies they promote. In addition, we could investigate how the explicit and implicit components interact in predicting parental beliefs and practices. In this context, it would also be interesting and important to investigate when, and if, frequent engagement in cultural tasks that are different from our explicitly stated values leads to an eventual alignment of the explicit and implicit components of our cultural model.

Focusing on both the implicit and explicit components of caregivers' cultural models also helps to clarify some of the assumptions of the current theoretical frameworks which focus on the influence of culture on human development. For example, Greenfield (2018) states that individuals are differentially impacted by cultural change. Taking into consideration both the implicit and explicit components of caregivers' cultural model would give us a more nuanced understanding of the impact of the differential impact of cultural change, by allowing us to explore the impact of cultural change on both components, and to gauge the consequences that this impact has on parental beliefs, practices, and human development.

Culture as Situated Cognition

The second theoretical framework that we would like to present is the Culture as Situated Cognition model (Wang, Atari, & Oyserman, 2021; Yan & Oyserman, 2018). This framework stipulates that culture arises from the situations with which individuals are habitually confronted in their environment. These situations provide the specific opportunities and constraints which shape the way individuals from a culture behave, think and feel (Arieli & Sagiv, 2018).

This theoretical framework assumes that, in each culture, there are both situations in which there is a need for group cohesion and coordination and situations in which individual welfare and autonomy has to be preserved and achieved (Wang et al., 2021). As such, in each culture there are both situations in which one needs to belong, interact harmoniously with others and adjust as a function of group directives, and situations in which one needs to focus on and act as a function of individual preferences, needs and goals. As a direct result of

this, in every culture there are situations which lead to the formation of an interdependent cultural model and situations which lead to the formation of an independent cultural model (Oyserman, 2017). In support of these claims, there are studies which suggest that interdependent and independent cultural models can be primed in both Individualistic and Collectivistic cultures (e.g., Arieli & Sagiv, 2018; Oyserman & Lee, 2008). Hence, both these types of cultural models, and the constituent dimensions (autonomy and separateness in the case of the independent model and heteronomy and relatedness in the case of the interdependent model), are available in every cultural community and can be primed situationally. What differs between communities is the frequency with which individuals encounter situations which prime a certain cultural model, or in other words, the cultural model that is chronically activated (Oyserman, 2017). Based on these assumptions of the Culture as Situated Cognition, an important avenue for future research is to employ priming tasks in order to empirically test the influence of caregivers' cultural models on their parental beliefs and practices. This would allow us to empirically test the causal relationship between cultural model, parental beliefs and practices that is stipulated by the Ecocultural Model of Human Development (Keller & Kartner, 2013).

Another important assumption of the Culture as Situated Cognition framework (Oyserman, 2017) is that it is important to take into consideration that, although different cultural models are available in every culture, it is important to emphasize that the structure and content of these models (e.g., how autonomy or relatedness is conceptualized in different cultures) might differ between cultures and the everyday cues that prime them might also vary (Ma-Kellams, 2021; Oyserman, 2017). As such, we must investigate the structure of caregivers' cultural models and investigate the situational cues that are associated with the activation of different mindsets.

There are also studies which suggest that characteristics of the situation can not only prime different cultural mindsets but also influence the degree to which these cultural mindsets are translated into action. For example, Grolnick (2002) emphasizes that mothers tend to use more controlling practices, rather than autonomy supporting ones, when under stress or time pressure, even if they have an independent cultural model. In addition, as we mentioned before, when mothers' self-worth is contingent on social evaluation (e.g., in situations in which they believe that the performance of their children would reflect on their performance as parents; Grolnick et al., 2007) they also tend to be more controlling, even if in general they value autonomous socialization goals.

Based on the theoretical framework and findings discussed above, we think it is important to refine the way we conceptualize cultural models to take into consideration that they are not stable traits, but that individuals from different cultures have available different cultural models that can be situationally

primed. Another important implication of the Culture as Situated Cognition approach is that we must understand how caregivers' cultural mindsets are structured (e.g., what is their specific conceptualization of autonomy or heteronomy, or of relatedness and separateness). In addition, based on the previous discussion, we also have to take into consideration that characteristics of the situation not only influence what that type of cultural model is activated but also the degree to which the cultural model translates into action.

Main conclusion regarding the influence of situations on cultural models and parental beliefs

In the following, we present four main ways regarding how we could modify extant conceptualizations of cultural models based on the theoretical frameworks and findings discussed before.

First, it is important to take into consideration the fact that cultural models are not trait-like stable characteristics, but that mothers from each culture have available different cultural models, that can be situationally primed. Modifying our conceptualization of cultural models in this manner offers us the possibility to bring culture in the laboratory and to test the effect of mothers' activated cultural models on diverse outcomes. Our task is to identify what is the structure of mothers' cultural models (e.g., how independence is conceptualised) and what types of situations can prime different cultural models. To achieve the latter, we must also identify how mothers construe different situations, that is, which situations they most frequently manifest autonomy, heteronomy, relatedness or separateness.

Secondly, we must take into consideration that situational characteristics not only prime different cultural models, but they might also influence the degree to which a cultural model translates into action. As we mentioned before, time pressure, stress and situations in which mothers' self-worth is contingent on social evaluation lead to a higher degree of focusing on controlling parenting practices (Grolnick, 2002; Grolnick et al., 2007). In addition, the norms that we perceive as governing different situations also influence the manner in which cultural models translate into action. To better understand the influence of perceived norms, we can also draw upon the institutional approach to cultural differences (Yamagishi, Hashimoto, & Schug, 2008). This theoretical framework states that cultural differences in behaviour are frequently not the result of differences in individually endorsed values like independence or obedience, but the result of perceived norms or beliefs regarding other individuals' response to our behaviour (Yamagishi & Hashimoto, 2016). As such, for example, in a Collectivistic culture, a mother might socialize her child not to offend others or not to express disengaging emotions; yet, this would be not because of a personal preference for relational

harmony (although one might have such a preference), but because the mother perceives that others having certain norms that go against these behaviours. As such, the mothers' socialization strategy would be geared towards avoiding a penalty from others, being ostracized, and having ones' access to resources being cut off. This framework might also explain the results of Thein-Lemelson (2015), which suggested that in Burma/Myanmar, there is a discrepancy between parents' explicit values or socialization goals and their behaviours. More precisely, although parents personally value obedience and interdependence, they might socialize children towards autonomy, because they perceive that this is the norm in their cultural group which was exposed to social and economic transitions.

Thirdly, we must take into consideration that cultural models have both implicit and explicit components (Mone & Benga, 2022). As we have shown before, it is important to take into consideration both components, because this gives us a more nuanced understanding of the relationship between ecosocial context, caregivers' cultural models and parental beliefs. Regarding the implicit components, an important future research avenue would be to investigate what cultural mandates caregivers think are important, what types of situations they engage in and what type of implicit psychological tendencies these situations promote. We might also focus on identifying the situations in which they encourage their children to engage in, as a function of their own cultural mandates, and how they scaffold specific procedures for behaving in those situations.

Fourthly, to better understand how cultural models are formed and how parents socialize children, we must investigate how parents promote engagement in different types of situations, how they structure the situations to which they expose their children to, how they scaffold the manner in which children construe different situations and how they socialize the procedures needed to solve different cultural tasks. We must also investigate if there are different pathways for the socialization of explicit and implicit cultural models.

To conclude, we consider that modifying current theoretical frameworks that focus on the influence of culture on parental beliefs, to include the influence of situational factors on cultural models and the implicit components of these cultural models, can help improve their heuristic value, generate new possibilities and offer potential solutions for existent conundrums.

Funding details

Mone Ionuț-Sergiu was supported by the project 'The Development of Advanced and Applicative Research Competencies in the Logic of STEAM+ Health' (POCU/993/6/13/153310), project co-financed by the European Social Fond, through the Romanian Operational Program for Human Capital 2014–2020

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