

The MPIC Model: The Perspective of the Hierarchical Model of Intrinsic and Extrinsic Motivation

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In the target article, Sheldon, Cheng, and Hilpert (this issue) underscore the importance of integrating multiple levels of analysis to appropriately describe human reality. Of major interest is the fact that the authors propose a Multilevel Personality in Context (MPIC) model that may prove useful in understanding the multiple causal influences on subjective well-being and optimal functioning. We commend the authors for taking on such an ambitious project and agree that integrative perspectives in science in general, and personality psychology in particular, represent an important goal to pursue. Although we agree with several elements of the MPIC model, we also disagree with some aspects of the Sheldon et al. model and raise questions with respect to others. Using the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997, 2007; Vallerand & Ratelle, 2002) as a lens, the purpose of this article is to present a critique of the MPIC model that focuses on its proposed structure, processes, and outcomes. First, let us briefly describe the Hierarchical Model.

The Hierarchical Model of Intrinsic and Extrinsic Motivation

The Hierarchical Model (Vallerand, 1997; Vallerand & Ratelle, 2002) offers a multilevel perspective on human motivation (see Figure 1). The purpose of this model is to provide a framework for organizing and understanding the mechanisms underlying intrinsic and extrinsic motivation. According to this model, specific types of motivation (i.e., intrinsic, extrinsic, and amotivation; this last construct is not discussed herein) are observable at different levels of analysis (i.e., the global, contextual, and situational levels), are shaped by social and personal determinants, and generate predictable outcomes. The Hierarchical Model is made up of elements that are organized both vertically and horizontally. This structural arrangement serves to integrate knowledge on the social psychological (horizontal axis) and personality (vertical axis) determinants of motivation and leads to a number of novel predictions on motivation and outcomes.

The Vertical Organization of the Hierarchical Model

The Hierarchical Model first posits a vertical organization of elements. These elements represent three different levels of generality that range from stable (on top) to momentary or state elements (at the bottom), namely, the global, contextual, and situational levels. The global level is the most general and refers to a person's personality or usual way of functioning. Motivation at this level takes the form of broad dispositions to engage in activities in a typically intrinsic or extrinsic way. It can be considered the trait level of motivation. Next in the hierarchy is the contextual level. This level represents specific life contexts, such as education (or work for adults), leisure, and interpersonal relationships. This level accounts for the likelihood that individuals may have developed intraindividual motivational orientations that may differ in different contexts. For instance, a given individual may engage in leisure activities in a more intrinsic way but partake in work-related activities out of extrinsic motivation. Furthermore, it may be the opposite for another individual. It is therefore important to take into consideration the type of activity one engages in to make refined predictions with respect to motivation and outcomes. Finally, the situational level is the most specific and refers to the here and now of motivation. It is the motivational state an individual experiences when engaging in a specific activity at a given moment in time. For example, someone plays the guitar out of intrinsic motivation at 3 o'clock on a Saturday afternoon.

The hierarchical organization of the three levels of generality implies certain relationships among them. These are illustrated by the upward and downward arrows in Figure 1, suggesting that motivation at one level in the hierarchy can be influenced by motivation at another level. These relations refer to top-down and bottom-up effects. First, top-down effects (illustrated by the downward arrows in Figure 1) refer to the influence of higher levels in the hierarchy on lower levels. Specifically, global motivation influences contextual motivation and situational motivation. Likewise, contextual motivation influences situational motivation. Each level has the strongest influence on the level immediately below (i.e., the proximity principle). In

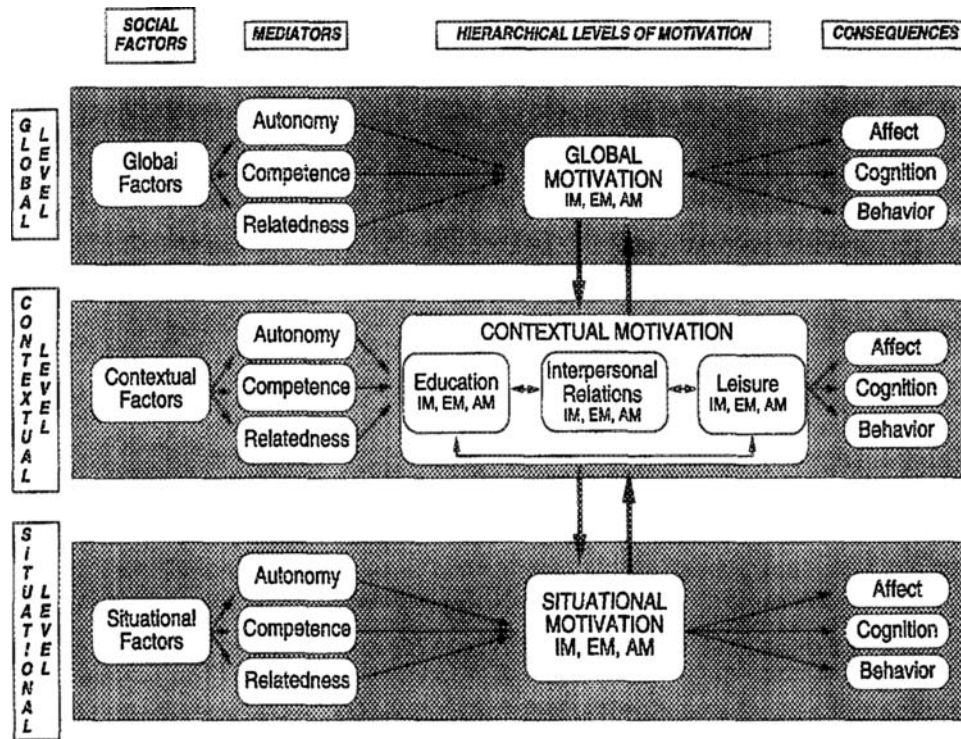


Figure 1. The Hierarchical Model. Note. IM = Intrinsic Motivation; EM = Extrinsic Motivation; AM = Amotivation

other words, global motivation will have a stronger influence on contextual motivation than on situational motivation. Recent research supports this top-down hypothesis. For instance, Blanchard, Mask, Vallerand, de la Sablonnière, and Provencher (2007) showed that the more athletes had a self-determined contextual motivation (i.e., engaging in an activity out of pleasure and choice) for sports, the more they had a self-determined situational motivation in a subsequent basketball game. Other research has also reproduced the top-down effect from contextual to situational motivation in different settings (see Lavigne et al., 2009; Lavigne & Vallerand, 2010; Ntoumanis & Blaymires, 2003) and in longitudinal designs involving the impact of global on contextual motivations over a 5-year period (Guay, Mageau, & Vallerand, 2003).

Second, bottom-up effects (illustrated by the upward arrows in Figure 1) refer to the opposite mechanism. The bottom-up process reflects the influence of lower levels in the hierarchy upon higher levels. For instance, situational motivation may influence contextual motivation and global motivation. Likewise, contextual motivation may influence global motivation. The proximity principle applies here as well. Thus, situational motivation will have stronger effects on contextual motivation than it will on global motivation. Similar to the top-down effect, this mechanism has also received much empirical support. Recent research shows

that following certain success and failure experiences, changes in situational intrinsic and extrinsic motivation are induced. When these changes are experienced repeatedly, they are internalized in motivation at the next level up in the hierarchy and lead to changes in motivation at that level (e.g., the contextual level relevant to the activity one engaged in). Support for the bottom-up process between situational and contextual motivation has been obtained in various fields such as sports (Blanchard et al., 2007) and education (Lavigne et al., 2010), whereas other research provides support for the presence of bottom-up effects from contextual motivation to global motivation (Guay et al., 2003, Study 1).

The Hierarchical Model thus specifies two vertical processes of influence whereby motivation at one level influences motivation at another level of the hierarchy. These influences refer to the intrapersonal determinants (or personality) of motivation because individual characteristics (i.e., types of motivation) at one level of the hierarchy influence motivation at another level. The Hierarchical Model also proposes the existence of other processes, such as the compensation, conflict, and transfer effects (see the lateral arrows in Figure 1; Ratelle, Vallerand, Senécal, & Provencher, 2005; Senécal, Vallerand, & Guay, 2001; Vallerand, 1997, 2007; Vallerand & Miquelon, 2008), but we do not address these in this article, because they are not addressed by Sheldon et al.

The Horizontal Organization of the Hierarchical Model

The Hierarchical Model also posits a horizontal organization of some components (illustrated by the left to right sequence in Figure 1). Such an arrangement reflects the social psychological processes dimension of the model. It suggests a causal sequence of events involving social factors, psychological needs, motivation, and outcomes. This sequence of events occurs at every level of generality (i.e., at the global, contextual, and situational levels) and hypothesizes the following. Beginning at the left of the model, it is postulated that motivation results from social factors. Such factors exert an influence on motivation at all three levels of generality. First, global social factors are so pervasive that they are present in most aspects of a person's life. An example of a global social factor is parenting. Parenting represents a rather continuous influence on children because it spans many situations and life contexts. The way parents raise their children influences the development of an intrinsic or extrinsic way of engaging in life, or global motivation. Second, contextual social factors are recurrent factors in a specific life context that are not part of other life contexts, such as an elementary school teacher or a coach in basketball. Third, situational social factors refer to a variable (e.g., winning a basketball game on a Sunday afternoon) that will have an impact on one's situational motivation to keep on playing basketball at that very moment. Because social factors exist at all three levels of generality, the influence of these factors is mainly specific to their level of generality. In other words, global social factors determine global motivation, contextual factors determine contextual motivation, and situational factors, situational motivation.

Next, the Hierarchical Model postulates that the influence of social factors on motivation occurs through basic psychological need satisfaction (see Deci & Ryan, 2000). As such, need satisfaction is considered a mediator between social factors and motivation. For example, the more a child perceives his teachers as supporting his or her needs for autonomy, competence, and relatedness, the more he or she will develop an intrinsic (or self-determined) way of engaging in school activities. Perceived need satisfaction acts as a mediator between social factors and motivation at every level of generality in the model. The more an individual's psychological needs are nurtured in general, in a given context, or in a specific situation, the more they will engage in activities in a self-determined fashion.

Finally, the temporal sequence of events ends with motivational outcomes. Three types of outcomes are illustrated: affective, cognitive, and behavioral. Similar to determinants, outcomes occur at every level of generality and are specific to their level of generality. In other words, global motivation produces global

outcomes, contextual motivation produces contextual outcomes, and situational motivation, situational outcomes. At all levels of generality, intrinsic motivation leads to the most positive outcomes, whereas certain types of extrinsic motivation (the least self-determined) produce the least positive consequences (Deci & Ryan, 2000). Much empirical support exists for the hypothesized causal sequence "Social factors → Need Satisfaction → Motivation → Outcomes" (see Vallerand, 2007, for a review).

In sum, the Hierarchical Model specifies two sets of processes that serve to integrate the personality (the vertical organization of the model and the top-down and bottom-up effects) and social psychological dimensions (the horizontal sequence and processes involving social factors) of motivation and outcomes. Together, these two mechanisms provide a detailed description of the development of different types of motivation, in time and space, as well as related outcomes.

Sheldon et al.'s MPIC Model

The MPIC model proposes a multilevel perspective on personality. As a multilevel—or hierarchical—model, it shares some commonalities with the Hierarchical Model of Intrinsic and Extrinsic Motivation previously described. For instance, we agree on the importance of different levels of analysis to better predict human behavior and account for its complexity. In addition, we agree on the importance of social factors in explaining human behavior. Finally, we also agree with the crucial role that the psychological needs of competence, autonomy, and relatedness proposed by Deci and Ryan (2000) play in human behavior. However, at the same time, we disagree with respect to a number of aspects of the model, including three that pertain to the structure, processes, and outcomes dimensions of the MPIC model. We now turn to these issues assessed through the lens of the Hierarchical Model.

On the MPIC Model Structure

The MPIC model consists of a six-level hierarchy: four levels of personality that are immediately superseded by a social relations level and at the very top by the cultural level. The four personality levels are made up of McAdams's (McAdams & Pals, 2006) three tiers conception of personality (self narratives, goals/motives, and traits/dispositions) and Deci and Ryan's (2000) three basic psychological needs (of competence, autonomy, and relatedness). The basic structure of the MPIC model thus consists of these six levels of analysis.

Although this six-level structure is plausible, there are nevertheless two major issues pertaining to the

proposed structure: (a) the ambiguity in the definition and selection of the various layers of the structure and (b) the validity of the MPIC structure as such. First, it appears that some ambiguity surrounds the structural levels. First, it is never made clear why the McAdams three-level structure was used. Why this structure and not another? This is especially important as little research has validated the McAdams three-level structure. Second, the selected levels are never defined as such. This lack of precision and ambiguity makes it difficult for the reader to understand what the levels in the hierarchy actually represent. Although some levels are more intuitive than others (e.g., the cultural level), others (e.g., self-narratives) are less straightforward. For instance, a construct such as self-esteem may be placed at the self-narratives level, at the goals/motives level, or even at the traits/dispositions level. Because the placement of constructs in the MPIC model largely depends on the definition of the different levels in the hierarchy, we believe that more precise conceptual and eventually, operational, definitions would be an asset to the model.

A second and related issue pertains to whether the proposed elements in the structure are in the correct order. In other terms, is the proposed structure valid? Two points are in order here. First, very little support (if any) is presented for the proposed order of the elements in the hierarchical structure. It appears that Sheldon and colleagues use the McAdams's three-tiers structure and assume that elements are correctly placed. However, McAdams and Pals (2006) themselves later changed their own structure by placing the goal/motives tier below the trait/dispositions tier. So, at the very least, the order of the goal/motives and traits/dispositions may be questioned. Perhaps one reason why the correct placement of the various element of the MPIC is unclear is that Sheldon et al. never clearly specify the nature of the continuum underlying the various levels of the hierarchical structure. In the Hierarchical Model, the underlying organization of the vertical axis rests on the principle of generality, from the most to the least stable. This does not seem to be the case in the MPIC model as a social factor (i.e., culture) is at the top, stable personality constructs are in the middle and psychological needs at the bottom of the structure. It is possible that the proposed structure may look awkward because the MPIC model attempts to integrate in one vertical axis, constructs and processes that the Hierarchical Model has integrated in two axes (vertical and horizontal). Clearly, another look at the organization of the structure may be needed in the MPIC model.

The second important point concerning the validity of the MPIC model's structure has to do with the place of needs in the model. Sheldon et al. place needs at the bottom of their six-level hierarchy. Structurally, needs are illustrated as being one of the six elements of the structure. However, their role in the model would

seem to justify a different placement. Indeed, needs are said to be mediators between the other levels of the hierarchy and outcomes (in the present case, subjective well-being). If needs are mediators at all levels of analysis, their placement in the model should better reflect such a mediating role. In the Hierarchical Model, satisfaction of the psychological needs plays a mediating role at each level of the hierarchy. That is why in addition to a vertical continuum, there is also a horizontal sequence in which social factors can influence motivation and outcomes through need satisfaction at each level of the vertical hierarchy. The results of the study presented by Sheldon et al. would appear to support such a location as the psychological needs were found to interact with other factors at each level of the hierarchy. If need satisfaction plays a role at each level of the MPIC Model, then it can hardly sit at the bottom of the hierarchy. It would appear that the current location of the various personality levels in the MPIC is unclear at best and needs to be more thoroughly justified. We suggest that a horizontal axis that would integrate cultural and social relations as well as psychological need satisfaction might help clarify the situation.

On Processes in the MPIC Model

On the role of social factors and context. We believe that a dynamic model offering a realistic account of the human experience should pay great attention to the social context. In fact, more than 100 years of research in social psychology has shown that social factors do play a key role in human behavior. Although the MPIC model is named the Multilevel Personality in *Context* model, it is relatively silent with respect to the social context. Although Sheldon et al. do suggest that cultural factors and social relations play a role in outcomes and are integrated in the hierarchical structure, the role of social factors and context is never fully explained. In contrast, the Hierarchical Model considers social context in two ways. First, context is present at the contextual level of the model through intraindividual differences (on the vertical axis) that exist as a function of different contexts. For instance, a given individual may generally be intrinsically motivated to play sports but be nevertheless extrinsically motivated to go to school. To paraphrase Ryan (1995), life is lived in context. Such motivational variations as a function of context need to be accounted for in order to predict meaningful outcomes that may vary from one context (e.g., leisure) to the next (e.g., education) that a more global or traitlike motivational orientation may not fully capture (Vallerand, 1997, 2007; Vallerand & Ratelle, 2002). Such a midlevel (moderately stable) individual difference level might prove useful in the MPIC model.

The second way through which the social context is taken into account in the Hierarchical Model is through

the clearly delineated horizontal causal sequence of the model. As indicated previously, such a sequence takes place at each of the three levels of the hierarchy and helps integrate the social psychological (horizontal axis) and personality dimension of the model (the vertical axis of the model). In the MPIC model, social relations are hypothesized to mainly affect the next level in the structure (i.e., self-narratives). It is not clear how social factors may affect such stable self-structures unless such social factors are experienced regularly in most spheres of life (global factors in the Hierarchical Model). Furthermore, such an impact is hypothesized to be mediated by satisfaction of the psychological needs that rest at the bottom of the hierarchy. It would appear more straightforward to postulate the presence of a horizontal sequence where social factors trigger need satisfaction that influences motivation that leads to outcomes. Much research using experimental (e.g., Grouzet, Vallerand, Thill, & Provencher, 2004; Vallerand & Reid, 1984) and correlational designs (e.g., Philippe & Vallerand, 2008; Vallerand, Fortier, & Guay, 1997) has provided support for this causal sequence at various levels of the hierarchy.

Interlevel processes. Another issue that needs attention deals with interlevel processes in the MPIC model. Sheldon et al. propose the existence of two such processes: top-down and bottom-up processes. These two processes are depicted by downward and upward arrows between adjacent levels in the structure. We agree with Sheldon et al. on the importance of such processes and have been studying them since 1997. However, because these mechanisms are never fully described by Sheldon et al., it is difficult for us to determine if the authors mean the same thing, conceptually, as we do. As pertains to the top-down effects, Sheldon et al. state that the “higher level of organization can reach back down to influence its constituent parts” (p. 2). How this occurs, however, is unclear. The term “moderator” is used to represent the influence of higher levels upon lower levels. But the mechanism of influence from a higher tier to a lower tier is not clearly specified. In contrast, the Hierarchical Model has posited the nature of such processes, and much research supports them. According to the Hierarchical Model, global and contextual-level constructs serve, in part, as schemas to store relevant motivational information, guide perception, and lead to action even in the absence of awareness (Ratelle, Baldwin, & Vallerand, 2005; Richer & Vallerand, 1995). Much research has supported the top-down effects from the global (or traitlike) motivation to the contextual level (e.g., Guay et al., 2003) and from contextual motivation to situational motivation (e.g., Blanchard et al., 2007, Studies 1, 2; Lavigne, Vallerand, & Miquelon, 2007; Ntoumanis & Blaymires, 2003). Of interest are the results of

Ratelle et al. (2005) which showed that such top-down processes can be experimentally induced and can take place at the unconscious level.

The second process hypothesized by the MPIC model is the bottom-up effect. Sheldon et al. (this issue) refer to bottom-up effects as “emergence.” When defining emergence, they posit that lower levels influence higher levels. As examples, they mention that “personality . . . processes are simply the emergent products of certain cognitive processes” and “cultural traditions . . . emerge over time from the long-term interactions of personalities within a geographically bounded region” (p. 2). However, it is unclear what the authors mean by emergence. If the MPIC model aims to accurately predict bottom-up effects, such a mechanism should be more clearly spelled out. This is especially important because according to the Hierarchical Model, bottom-up processes represent one of the ways through which changes in the person can take place. For instance, repeatedly interacting with an engaging and caring math teacher can lead one to experience repeated bouts of intrinsic motivation in math that, over time, can lead one to become more intrinsically motivated toward school in general. In terms of the Hierarchical Model, situational factors that facilitate one’s psychological needs induce situational intrinsic motivation. If experienced on a repeated basis, such situational (short-term) changes in intrinsic motivation may be internalized at the next level up in the hierarchy and lead to positive changes in contextual intrinsic motivation toward school. Much research has supported the existence of such bottom-up processes using short-term designs of 10 days (Blanchard et al., 2007, Study 1) and 6 months (Blanchard et al., 2007, Study 2), as well as with long-term designs of up to 5 years (Guay et al., 2003).

We have depicted here our conceptual version of the bottom-up process. Although Sheldon et al. may agree with such a version, we nevertheless see two difficulties. First, we believe that it is the social factors that trigger immediate (situational) changes in the person that over time are internalized. Without any influence of social factors on the person, little change should take place. Because social influences operate at the top of the structure in the MPIC model, this rules out the possibility that changes induced by social factors at the bottom of the structure can lead to bottom-up effects with higher-up levels. The second difficulty for the MPIC model with respect to the bottom-up process pertains to the fact that most constructs in the structure would appear rather stable and thus impervious to social impact. Self-narratives and traits represent highly stable structures. For some social impact to occur, it would need to take place through goals/motives. However, these goals/motives would need to refer to *situational* goals/motives and not to relatively stable personality orientations as seem to be the case in the

MPIC model. In sum, it is not clear how bottom-up processes in particular, and changes in general, may take place in the MPIC model.

A Limited View on Outcomes

A final issue to be addressed deals with the limited view of the MPIC model with respect to outcomes. Two points would appear in order. First, the authors seem to focus on one particular type of outcome, namely, subjective well-being, and even seem to suggest that it equates with optimal functioning. We would like to suggest that it does not. Research (see Ryan & Deci, 2001; Ryan, Huta, & Deci, 2008) has shown that there are at least two types of psychological well-being: hedonic well-being (i.e., feeling good) and eudaimonic well-being (i.e., self-growth). Although both types of well-being are positively related, research reveals that eudaimonic well-being contributes the most to psychological and physical health (e.g., Miquelon & Vallerand, 2006) and to optimal functioning. Because Sheldon et al. focus on hedonic well-being (as assessed by positive affect and life satisfaction), it is not clear how such research may lead to advances in optimal functioning.

However, we agree with Sheldon et al. that to gain a better understanding of optimal functioning, other elements in addition to subjective well-being should be studied as optimal functioning involves much more than simply psychological well-being. In line with Vallerand (1997), who suggested that a multidimensional perspective on outcomes is needed to fully grasp human functioning, Vallerand (2010) recently proposed the construct of *optimal functioning in society*. This multidimensional construct is made up of five elements: eudaimonic well-being, physical well-being, relational well-being, high performance in one's major field of endeavor (e.g., work), and contributions to society. Preliminary research reveals that these five elements do form the basis of a multidimensional construct that would appear to capture what it is to be optimally functioning, not simply at the psychological level but also through one's relationships, contributions to society, and performance in one's field of endeavor. Furthermore, such research reveals that although some self-determined motivational structures may facilitate all five components of optimal functioning in society, other less self-determined structures may undermine some elements of optimal functioning but facilitate others. So, outcomes may not reflect an all-or-none phenomenon. Rather a more balanced perspective may take place where, depending on the predictors, more or less positive effects on certain outcomes, but not on others, may be experienced. Future research using a multidimensional assessment of outcomes may provide key insights on the role of hierarchical models

such as the MPIC model and the Hierarchical Model in optimal human functioning.

The second issue dealing with outcomes is that it is not clear in the MPIC model which element in the hierarchy is hypothesized to produce which types of outcomes. Are all elements in the hierarchy involved in all outcomes? Should different processes be involved at different levels of the hierarchy in predicting different types of outcomes? This issue is not addressed by the MPIC model. In the Hierarchical Model, it is proposed that most temporary (or state) outcomes are produced by the first (bottom) level at the situational level, whereas more permanent outcomes come from motivational processes at higher and more permanent structures in the hierarchy (contextual and global levels). Sheldon et al. might want to lay out more clearly how certain outcomes that may reflect optimal functioning are determined by the various elements of the hierarchy.

Conclusion

In sum, Sheldon et al. (this issue) have proposed a model that seeks to further our knowledge on personality and its determinants and outcomes. Although we salute the authors' effort to build an integrative model that may pave the way to novel and creative future research, we nevertheless see some problems and questions as pertains to the structure, processes, and outcomes proposed by the MPIC model. Using the Hierarchical Model of Intrinsic and Extrinsic Motivation (Vallerand, 1997, 2007; Vallerand & Miquelon, 2008; Vallerand & Ratelle, 2002) as a lens, we have formulated comments and raised questions in the hopes of providing some useful feedback that may serve to refine and clarify what may prove to be an important model of personality.

Note

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