Motivational Concerns in Childhood and Adolescence

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Abstract

This brief report explores developmental changes in motivation by adapting, for a sample of children spanning the ages of 4 to 17, measures of well-established motivational concerns, such as regulatory mode and regulatory focus concerns. The paper leverages a recently proposed developmental model of shared reality to interpret our results (Higgins, 2016). We established that assessment concerns increase throughout childhood until age 13, which is theorized to be the end of childhood according to the theory of shared reality development. Furthermore, we found that children after age 13, but *not* before that pivotal age, are similar to adults in how they differentiate between regulatory mode and regulatory focus concerns. Adopting the theory of shared reality development allowed us to highlight the importance of motivational concerns in development beyond the cognitive changes that are often utilized.

Motivational Concerns in Childhood and Adolescence

The present study represents a first step in considering how two well-established self-regulatory systems change over the course of childhood by examining the relation between age and key motivational concerns. We focus on developmental changes in motivational concerns and explain our findings by leveraging a developmental model of shared reality motivation.

Motivational Concerns

In the present work we put to test a specific set of motivational concerns: regulatory mode concerns and regulatory focus concerns in the context of motivational development. Regulatory mode research distinguishes between *locomotion* concerns with making things happen and *assessment* concerns with making the right choices (Higgins, Kruglanski, & Pierro, 2003; Kruglanski et al., 2000). Regulatory focus research, instead, distinguishes between two different value concerns: *promotion* concerns with advancement and growth and *prevention* concerns with safety and security (e.g., Higgins, 1997). Those four motivational concerns have been widely examined and prove to be extremely effective in explaining and predicting human behavior in adults (Higgins, 2012; Higgins & Cornwell, 2016; Kruglanski, Pierro, Mannetti, & Higgins, 2013). However, to our knowledge, no work has examined the relevance of these different motivational concerns throughout the course of childhood development.

Developmental Motivation Model

How will motivation change over the course of childhood? In order to examine motivational changes, we turn to another, recently proposed, developmental model of motivation during childhood: the theory of shared reality development in childhood (Higgins, 2016, 2019). The theory is concerned with the development during childhood of shared reality — the

experience of having in common with others an *inner* state about something (e.g., a feeling, belief, or concern about something). Creating a shared reality is driven by motivational concerns: people are motivated to have feelings, beliefs, and concerns about the world in common with others (Echterhoff, Higgins, & Levine, 2009). We use this theory to inform our predictions about shifts in motivation during childhood.

According to the theory of shared reality development, there are four distinct phases of shared reality development that build upon each other. In Phase 1 (6–12 months) — *shared feelings*— children learn what things in the world are relevant (worthy of attention) and how to react emotionally to them. In Phase 2 (18–24 months) —*shared practices*— children learn what is the right way, according to their family and community, to carry out everyday activities, such as proper dressing, eating, bathing, use of words, and so on. In Phase 3 (3–5 years) —*shared self-guides*— they internalize (i.e., accept as their own) their significant others' goals and standards for them. In Phase 4 (9–13 years) — *shared coordinated roles*— they learn from coordinated teamwork within the broader society the right rules for performing necessary roles that complement other roles. In each phase, then, children are learning from others how to do things the right way—from the right emotional reaction, to the right way to perform an everyday activity, to the right goals to pursue, to the right roles to perform in coordinated activities. This is a progression that relates to becoming increasingly adept at satisfying assessment concerns— learning what is the right choice in different situations. And, importantly, Phase 4, according to the developmental model, is the end of childhood. Thus, children in the age range of this phase should more closely resemble adults motivationally than younger children at the earlier phases. This could be true not only for assessment but for the other motivational concerns as well.

The Present Research

The present research aims to examine how children's motivational concerns change during childhood. Given the importance of increasingly learning how to make the right choices over the course of development in the shared reality model, we focus on assessment concerns in particular. Both assessment concerns and shared reality creation are motivated by wanting to understand what is right: establishing the truth about the world. According to the shared reality development model, the phases build on each other. Thus, the motivation to establish what is right should get stronger as children move from one phase to the next—a positive correlation between age and assessment motivation. This should continue until the end of Phase 4, which is the last shared reality phase in childhood. Thus, we predict that the positive correlation between age and assessment will end around age 13.

What about developmental changes in regulatory focus concerns? The shared reality development model does not make as clear predictions for regulatory focus concerns as it does for assessment concerns. But what happens in Phase 4 suggests one possible change. By the end of Phase 4, children's shared reality includes learning the rules and roles that are needed to coordinate with others performing other roles in teamwork. Children need to know what is expected of everyone performing each role. They need to recognize that their responsibility is to the role and not to their own personal wishes. This recognition should allow children to fully grasp and appreciate—in a way they never did before—the fundamental difference between goals that are their own personal hopes and aspirations (promotion) as opposed to goals that are duties and obligations that they must fulfill (prevention). Before age thirteen, children may have trouble fully differentiating between promotion and prevention. This means that promotion and prevention concerns would be positively correlated before age thirteen but after age thirteen

promotion and prevention motivations would be more independent (i.e., little, if any, correlation), similar to what is seen with adults.

Overview. Our study examines how motivational systems change during childhood. In particular, we investigate how regulatory mode and regulatory focus concerns change in children from the age of four to the age of seventeen. Informed by the shared reality development model, we propose that: (1) assessment concerns (i.e., concerns with establishing the right choice) will increase with children's age (associated with progressive shared reality learning of the right ways to deal with the world), but only up to the age of 13 when the last phase of childhood shared reality development comes to an end; (2) promotion and prevention concerns will be positively correlated (i.e., not fully differentiated), but only up to the age of 13 when the last phase of childhood shared reality development comes to an end and, like with adults, promotion and prevention concerns become independent.

Methods

Participants

Eighty-five participants between the ages of 4 and 17 years old took part in this cross-sectional study at Columbia University in exchange for monetary compensation of \$105. Participants answered a series of questionnaires, including this study measures, and subsequently completed fMRI scanning for a different project. They were recruited through flyers, in-person at street fairs near the university, via word of mouth, and Internet ads generated from the lab's Facebook page. The median age was 10 years ($M = 10$, $SD = 3.5$). The sample was 56% female and 44% male, and 16% African American, 29% Caucasian, 35% Hispanic and 18% undisclosed ethnicity. The protocol was approved by the Institutional Review Board at Columbia University. Participants' parents provided informed consent and minors provided assent.

Materials and Procedure

Children and adolescent participants completed a questionnaire assessing motivational constructs. To reduce the burden on the younger sample, participants answered a single item to measure each dimension. Items were modified from each of the adult questionnaires (Higgins et al., 2001 and Kruglanski et al., 2000) to be appropriate for child and adolescent populations. The resulting questionnaire included the following items, generated by two experts in the fields of motivation and development: “Usually when I do something, I get better and better at it” (promotion), “I am good at following rules” (prevention), “I often think about what I’ve done wrong or what another person has done wrong” (assessment) and “When I decide to do something, I can’t wait to get started” (locomotion). Each of them was rated on an 11-point Likert scale from 0 “strongly disagree” to 10 “strongly agree”, in order to offer more variability, a higher degree of measurement precision, and a better opportunity to detect differences among participants.

Results

Analysis 1: Regulatory Mode.

We first examined regulatory mode: the assessment score showed a significant moderate correlation with age, $r(85) = .29, p = .007$. Assessment was, in fact, the only variable that was significantly related to age (Table 1). Additionally, we reported average mean and standard deviation scores in Table 2.

Next, we examined whether the self-regulatory systems of children shift at the age of 13 to resemble the relations between these systems in adults. In terms of the relation between age and assessment, there appeared to be a difference between participants who were under 13 (hereby referred to as children) vs. 13 or older (hereby referred to as adolescents). As reported in

Table 3 and 4, the correlation coefficient of the relation between age and assessment score in children was marginally positive ($r(61) = .22, p = .09$) whereas the same effect for adolescents was substantially lower and not significant ($r(24) = -0.02, p > .99$).

Analysis 2: Regulatory Focus.

Overall, promotion and prevention were moderately correlated ($r(85) = .49, t(83) = 5.162, p < .001$). In order to test our prediction that we would see an age-related change in the relation between the two variables at the end of Phase 4, we again divided the sample into children and adolescents. The correlation between prevention and promotion was strong for children ($r(61) .55, p < .001$). In contrast, it was weak and non-significant for adolescents ($r(24) = .10, p > .25, n.s.$), which is consistent with what has been found for adults. The difference between these correlation coefficients for the children versus the adolescents was significant ($p = .04$).¹ These findings suggested that children only begin to self-regulate similarly to adults by age 13, when they begin to differentiate their promotion and prevention concerns.

Additionally, adolescents were more likely than children to resemble adults in their self-regulation in terms of the relation between promotion and locomotion concerns. Research with adults has consistently found a strong positive correlation between promotion and locomotion concerns (Higgins, 2008). In this study, adolescents showed this same strong, positive correlation ($r(24) .60, p < .01$) whereas children did not ($r(61) .14, p > .29, n.s.$). Additionally, the difference in correlation coefficient was significant ($p = .02$). We later speculate why this might be so.

Discussion

Our study examined how basic motivational concerns—assessment, locomotion, promotion, and prevention—change during childhood. Our results confirmed our hypothesized

¹ Note that these results did not change appreciably when we used a log-transformed version of the variables.

positive relation between assessment and age. In each phase of shared reality development, children learn from others how to do something in the world the right way. They learn how to master emotions, how to interact with their environment, how to make the right choices and how to coordinate with others to make those choices happen. This is a progression that relates to becoming increasingly able to satisfy assessment concerns—learning what the right choices are. And, importantly, Phase 4, according to the developmental model of shared reality, is the end of childhood. We found a positive relation between assessment and age until children reach the age of 13, at which point there was no longer a significant relation between assessment and age.

The pivotal switch from childhood to adulthood at the end of Phase 4 (age 13) also formed the basis of our prediction with respect to the relation between promotion and prevention concerns. By the end of Phase 4, children's shared reality includes learning the rules and roles that are needed to coordinate with others performing other roles in teamwork. Children need to know what is expected of everyone performing each role. We proposed that needing to recognize that their responsibility is to the role and not to their own personal wishes might allow children to fully grasp and appreciate the fundamental difference between goals that are their own personal hopes and aspirations (promotion) rather than goals that are duties and obligations that they must fulfill (prevention). We proposed that before age thirteen children might not fully differentiate between promotion and prevention, which means that promotion and prevention concerns would be positively correlated. After age thirteen, however, promotion and prevention motivations would be more like those in adults where they are mostly independent, with little, if any, correlation.

Our results support this proposal. The positive correlation between prevention and promotion orientations and the negatively skewed scores that characterize our pre-13 year old

participants suggest that children before the end of shared reality development treat prevention and promotion concerns similarly (i.e., as goal pursuit concerns). Our results suggest that it is only when children begin to deal with the multiplicity of roles that each individual is asked to play in our society that they come to distinguish their own personal promotion hopes and aspirations from the prevention duties and obligations associated with coordinated roles.

Finally, we found a high correlation between locomotion and promotion emerging only after the age of 13. We speculate that, again, this could derive from what happens by the end of childhood shared reality development in Phase 4. By the end of this phase, children might realize the importance of their role as a member of their community or teams and feel compelled to be productive members that advance and help move forward their community or teams. Doing so would satisfy both promotion and locomotion concerns.

Limitations & Future Research

Despite the strengths of this work, the relatively small sample limited our ability to fully capture some of the effects we were examining. Future research is needed to replicate and extend these findings. Additionally, future research could examine the behavioral correlates of these motivational systems in children and adolescents. For example, how does the increase in assessment concerns manifest behaviorally: As children develop greater concerns with making the right choices, do they actually make better decisions? How does the ability to differentiate between promotion and prevention concerns influence adolescents' behaviors and thought processes?

Conclusion

This paper examined the development of basic motivational systems—assessment, locomotion, promotion and prevention—in children and adolescents. We found support for the

theory of shared reality development, which suggests that children shift in their motivational systems to resemble adults around the age of 13, at the end of childhood. This model also predicts that assessment concerns increase throughout childhood until this pivotal age. Indeed, age positively predicted assessment in our sample for children but not for adolescents. Finally, we found that adolescents resembled adults in the relation between their motivational systems (specifically, the independent relation between promotion and prevention, as well as the positive relation between promotion and locomotion), whereas children did not.

This work advances our understanding of how various self-regulatory systems emerge in childhood and adolescence. Until they reach the end of childhood, children grow increasingly concerned with making the right decisions. Further, at that point, their motivational systems shift to resemble those of adults—for example, they are better able to distinguish between their promotion aspirations and their prevention obligations. These results begin to elucidate critical developmental processes in human motivation.

References

- Echterhoff, G., Higgins, E. T., & Levine, J. M. (2009). Shared reality: Experiencing commonality with others' inner states about the world. *Perspectives on Psychological Science*, 4(5), 496-521. doi.org/10.1111/j.1745-6924.2009.01161.x
- Higgins, E. T. (1997). Beyond pleasure and pain. *American Psychologist*, 52(12), 1280-1300. dx.doi.org/10.1037/0003-066X.52.12.1280
- Higgins, E. T. (2008). Culture and personality: Variability across universal motives as the missing link. *Social and personality psychology compass*, 2(2), 608-634. doi.org/10.1111/j.1751-9004.2007.00075.x
- Higgins, E. T. (2012). *Beyond pleasure and pain: How motivation works*. New York: Oxford University Press.
- Higgins, E. T. (2016). Shared-reality development in childhood. *Perspectives on Psychological Science*, 11(4), 466-495. doi.org/10.1177/1745691616635595
- Higgins, E. T. (2019). *Shared reality: What makes us strong and tears us apart*. Oxford University Press.
- Higgins, E. T., & Cornwell, J. F. (2016). Securing foundations and advancing frontiers: Prevention and promotion effects on judgment & decision making. *Organizational Behavior and Human Decision Processes*, 136, 56-67. doi.org/10.1016/j.obhdp.2016.04.005
- Higgins, E. T., Friedman, R. S., Harlow, R. E., Idson, L. C., Ayduk, O. N., & Taylor, A. (2001). Achievement orientations from subjective histories of success: Promotion pride versus

prevention pride. *European Journal of Social Psychology*, 31(1), 3-23.

doi.org/10.1002/ejsp.27

Higgins, E. T., Kruglanski, A. W., & Pierro, A. (2003). Regulatory Mode: Locomotion and Assessment as Distinct Orientations. In M. P. Zanna (Ed.), *Advances in experimental social psychology*, Vol. 35, pp. 293-344). San Diego, CA, US: Elsevier Academic Press. [doi.org/10.1016/S0065-2601\(03\)01005-0](https://doi.org/10.1016/S0065-2601(03)01005-0)

Kruglanski, A. W., Pierro, A., Mannetti, L., & Higgins, T. E. (2013). The distinct psychologies of “looking” and “leaping”: Assessment and locomotion as the springs of action. *Social and Personality Psychology Compass*, 7(2), 79-92. doi.org/10.1111/spc3.12015

Kruglanski, A. W., Thompson, E. P., Higgins, E. T., Atash, M., Pierro, A., Shah, J. Y., & Spiegel, S. (2000). To "do the right thing" or to "just do it": locomotion and assessment as distinct self-regulatory imperatives. *Journal of personality and social psychology*, 79(5), 793. doi.org/10.1037/0022-3514.79.5.793

List of Tables

Table 1. Correlation Coefficient (Age 4-17)

	Age	Prom.	Prev.	Assm.	Loc.
Age	-				
Prom.	0.06	-			
Prev.	0.12	0.49***	-		
Assm.	0.29**	0.35**	0.33**	-	
Loc.	-0.08	0.2	-0.1	0.06	-

. $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2. Average Mean and Standard Deviation Scores

	Mean	Standard Deviation
Promotion Score	7.57	2.54
Prevention Score	6.88	2.97
Assessment Score	6.78	3.10
Locomotion Score	7.94	2.55

Table 3

Correlation age 4-12					
	Age	Prom.	Prev.	Assm.	Loc.
Prom.	0.08				
Prev.	0.08	0.55***			
Assm.	0.22 .	0.4**	0.36**		
Loc.	-0.1	0.14	-0.11	0.11	

. $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 4

Correlation age 13-17					
	Age	Prom.	Prev.	Assm.	Loc.
Prom.	-0.13				
Prev.	-0.12	0.1			
Assm.	-0.02	0.07	0.1		
Loc.	-0.23	0.6**	-0.03	-0.17	

. $p < 0.10$, * $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$