

A Summary of Findings from Recent Research on DSRP Theory

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ABSTRACT: The ecology of studies summarized herein, address both basic and applied research questions about DSRP Theory. A literature review (N=129 studies) and an ecology of new studies (N=27 studies; samples ranging from N=374 to N=34,398) focused on *existence, universality, efficacy, and parallelism* of identity-other Distinctions (D), part-whole Systems (S), action-reaction Relationships (R), and point-view Perspectives (P), as well as three studies that cut across all four DSRP patterns. These data suggest—with *high statistical significance*—the observable and empirical *existence, universality, efficacy, and parallelism* (between cognitive and ontological complexity) of D, S, R, and P respectively and collectively, and support the conclusions summarized herein.

Keywords: DSRP Theory | cognitive complexity | systems thinking

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DSRP Theory

THE SIMPLEST ACCURATE statement of DSRP Theory is thus:

$$\begin{array}{c} \text{that which is Organized} \qquad \text{Distinctions} \qquad \text{Systems} \\ \text{“the ways information is/is not bounded, arranged,} \\ \text{Relationships} \qquad \qquad \text{Perspectives} \\ \text{and interconnected from frames of reference determines} \\ \text{Material Complexity (Nature) \qquad Cognitive Complexity (Mind)} \\ \text{what actually exists and what we think exists.”} \end{array}$$

THIS SIMPLICITY BELIES THE COMPLEXITY and robustness of DSRP Theory shown in Figure 1 and Equation 1. The ‘ST-DSRP Loop’ illustrates that DSRP-Systems Thinking *fits* mental models to real-world observables and feedback¹.

DSRP Theory articulates the universal structures and dynamics for *organizing* (O) *information* (I). Both in the mind, as part of mental models (IM)—defined as the complex product of information and DSRP thinking ($IM=I \otimes T$)—but also as part of Reality (IR)—defined as the complex product of information and DSRP organization ($IR = I \otimes O$)—where both O and T = DSRP, and the hat symbol (\hat{x}) is used to denote the *sample* or *sampling* of information and structure, as shown in Equation 1. It should be noted that different symbols

¹ It should be noted that the ST/DSRP Loop is the mirror opposite of confirmation bias. Confirmation bias reverses this loop, by *fitting* reality to one’s mental models. *Parallelism* is therefore the degree to which one’s cognitive paradigm, style, or mindset, aligns with nature’s.



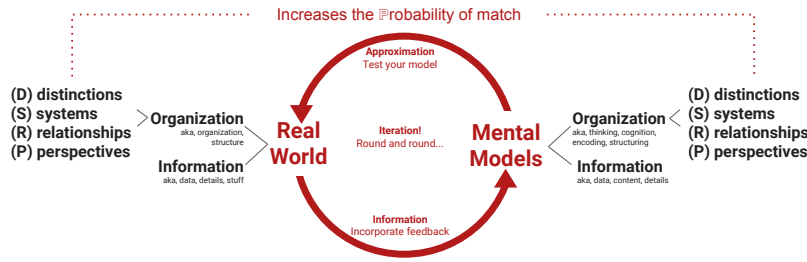


Figure 1: The ST/DSRP Loop

are sometimes used for organization (O) to differentiate thought-based organization (where T is used for “thinking”) versus more general organization (where O is used) of information as is the case for energy and matter—that information is a basic property of the universe is well trodden ². Thus, $T = \hat{O} = DSRP$. Thus, the goal of systems thinking is increase the value of the fraction between our Mental models and Reality such that $\frac{M}{R} = 1$. This is an aspirational goal.³ But interestingly, it is this aspirational goal that differentiates the phenomenon of *systems thinking* from plain-old *thinking*. Because systems thinking has an expressed aspirational goal of making the fraction between mental models (M) and Reality (R) equal to 1, such that $\frac{M}{R} = \frac{1}{1} = 1$. Thinking doesn’t have this aspirational goal, so it doesn’t require metacognition (just cognition). Otherwise, they’re exactly the same. But that’s a pretty big otherwise. The formalism for DSRP is detailed and explained in Equation 1:

² Tom Stonier, *Information and the Internal Structure of the Universe: An Exploration into Information Physics*, Springer Verlag, 1990; 2; 3; 4; 5; and 6

³ One could say—somewhat tongue in cheek but also analytically and literally—that the *ultimate* goal of systems thinking is to attain “oneness.” That is, to increase the value of the fraction between our Mental models and Reality such that $\frac{M}{R} = 1$.

$$\begin{aligned}
 \mathbb{P}(m) &= \frac{\mathbb{M}_n}{\mathbb{R}_l} = \frac{\hat{\mathbb{I}} \otimes \mathbb{T} \left\{ : \hat{D}_o^i \circ \hat{S}_{\hat{w}}^p \circ \hat{R}_{\hat{r}}^a \circ \hat{P}_{\hat{v}}^o : \right\}_j}{\mathbb{I} \otimes \mathbb{O} \left\{ : D_o^i \circ S_w^p \circ R_r^a \circ P_v^o : \right\}_k} \\
 &\quad \text{Information (sampled) [additive]} \quad \text{Mental Model ("meaning")} \quad \text{Organization ("Thinking")} \quad T = \hat{O} = DSRP \text{ (sampled)} \\
 &\quad \text{Probability of match} \quad \text{Reality ("real world systems")} \quad \text{Information (actual) [additive]} \quad \text{Organization} \quad O = DSRP \text{ (actual)} \\
 &\quad \text{complex product over time: } j \rightarrow n, l \rightarrow k
 \end{aligned} \tag{1}$$

A simple way to understand this formula is to focus in on just one portion of the fraction between mental models and reality: $\frac{M}{R}$. We will use the $\frac{\hat{S}_{\hat{w}}^p}{S_w^p}$ by asking about your mental model of the parts of an ecology versus the actual parts of an ecology. Your mental model might include 247 parts whereas you estimate that the actual ecology includes many more than 247 parts ($\gg 247$). Thus, $\frac{\hat{S}_{\hat{w}}^p}{S_w^p} = \frac{247}{\gg 247} =$



$2.47 \times 10^{-M} = 2.47e-M$ (i.e., scientific notation a *very* small number). If your understanding of those $2.47e-M$ parts is useful in whatever it is you're trying to accomplish in the ecology, then the numerator (your mental model) suffices as a model for the denominator (reality). If it doesn't then you might make the structural prediction that their are more/different parts that you need to understand. Regardless, because (1) the denominator is almost always effectively much greater than the numerator, and (2) all signal from reality is filtered through our mental models, the formula above can be summarised to:

$$\begin{aligned} \mathbb{M} &= \mathbb{I} \otimes \mathbb{T} \\ \text{where,} & \\ \mathbb{T} &= \hat{\mathbb{O}} = \text{DSRP} \end{aligned} \quad (2)$$

In other words, our mental models are built on meaningfully organizing information with DSRP. The formalism for DSRP Theory clarifies a number of important things:

1. the applicable domains (reality (or real-world systems) and mental models);
2. the goal (increasing the probability of a match between mental models and reality (a.k.a., parallelism));
3. the universal structures and structural rules of organization (i.e., DSRP);
4. the dynamical rules (co-implication and simultaneity);
5. the fundamental action (organization, or \mathbb{O});
6. the fundamental element being acted upon or *organized* (i.e., information, or \mathbb{I}); and
7. the relationship between information and organization over time (complex product, or \otimes); and
8. the basis on which to make structural predictions that aid knowledge creation, innovation, invention and discovery.

This last item—*structural predictions*—represents the most important contribution of DSRP Theory: it let's us make predictions about highly probable structures in our thinking and then 'fill in' these structures with informational variables (a.k.a., discovery at the personal, professional, social, or scientific scales). For more in depth on the specifics and implications of DSRP Theory see: ⁴.

⁴ 7; 8; 9; 10; 11; 12; 13; and 14



Research Program

THE RESEARCH PROGRAM, IMPETUS, DESIGN AND METHODOLOGY as well as the null and alternative hypotheses, for the 27 studies summarized herein, were based on the basic and applied research questions summarized in Table 1. Basic research investigates the *existence* and *universality* of DSRP in both mind and nature, whereas applied research investigates the *efficacy*⁵ and *parallelism*⁶.

⁵ Defined as the effect of *metacognitive* awareness of DSRP.

⁶ Defined as the probability that organizational rules of mind align with organizational rules of nature.

	Existential <i>(Basic Research)</i>	Efficacy <i>(Applied Research)</i>
Mind <i>(cognitive complexity)</i>	Does DSRP Exist in Mind? (i.e., Does DSRP exist as universal, material, observable cognitive phenomena?)	Is Metacognitive Awareness of DSRP Effective? (i.e., Does it increase ability to align cognitive complexity to real-world complexity? (a.k.a., parallelism))
Nature <i>(material complexity)</i>	Does DSRP Exist in Nature? (i.e., Does DSRP exist as universal, material, observable phenomena?)	
EMPIRICAL BASIS		

Table 1: Research Questions for DSRP Theory on 4 Dimensions

Summary of Empirical Research

THERE IS MORE EMPIRICAL EVIDENCE supporting DSRP than any existing theory of systems thinking⁷ making it rise to the level of a validated ‘theory.’⁸ (See ⁹).

Cabrera et al.’s 2021 literature review of research (¹⁰) builds upon a previous literature review (¹¹). These reviews reflect a collection of peer-reviewed studies and their findings (N=129) which support some aspect of DSRP Theory. A K-MMM Analysis (¹²) was performed on this literature review data. Figure 2 shows the majority (69.5%) of the research falls in the combined area of empirical studies. Figure 3 shows the areas of DSRP Theory to which the research applies.

DSRP Theory details quite a bit more than this simplification relays ¹³. In addition, as pointed out in Cabrera, Cabrera, and Midgley

⁷ This includes thousands of ‘opinion-based’ frameworks, which themselves have not ascended to the status of ‘theory’ but which nevertheless make up the majority of scholarship in the area.

⁸ Contrary to public perception—which uses the term theory as synonymous with an opinion or guess—scientific theories are those ideas that have an accumulation of empirical evidence supporting its claims and predictions.

⁹ 15; 16; 17; 18; 14; 19; 20; 21; 22; 7; 23; 24; and 18

¹⁰ 16

¹¹ 7

¹² 25

¹³ 26; 12; 11; 13; 27; and 28



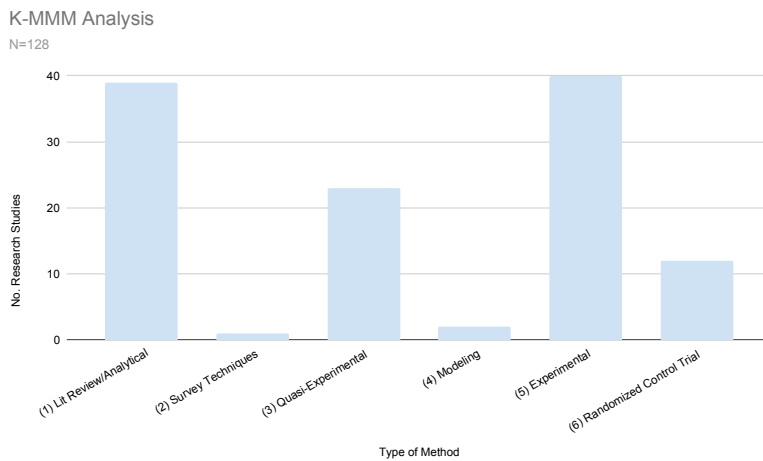


Figure 2: K-MMM Analysis of Studies (N=129) in Literature Review

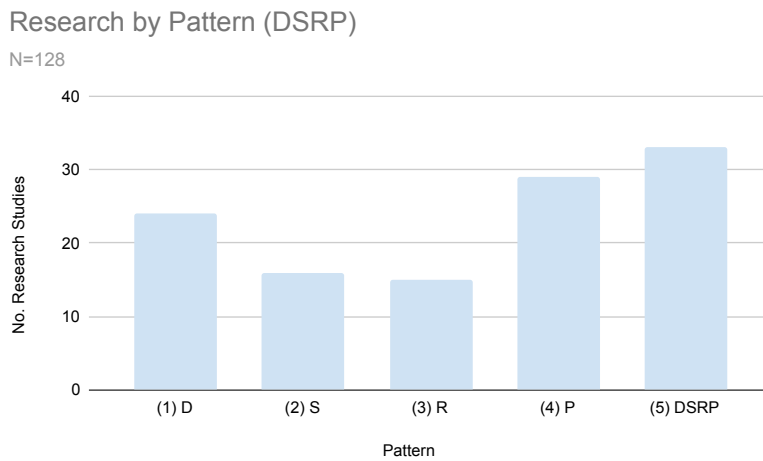


Figure 3: Analysis of Studies (N=129) in Terms of D, S, R, P and DSRP (general)

¹⁴ in a discussion of how DSRP Theory has brought about a fourth wave in systems thinking, the authors write:

Since Cabrera’s first writings, we now have the benefit of over 20 years of hindsight on the possible start of a fourth wave (which is as long as the gap between the first and second waves, and twice as long as the gap between the second and third waves). During those years, we have seen considerable testing of Cabrera’s DSRP Theory, including: (1) a burgeoning amount of empirical evidence (at least as much as has been offered in the previous waves); (2) substantial private sector funding to develop tools for systems thinking; (3) substantial public funding for research; (4) a substantial peer review and publication history, sizeable citation histories, including several special issues dedicated to DSRP; (5) considerable public exposure and critique; (6) public adoption; (7) high attendance

¹⁴ 29



annual conferences; institutional recognition and support; and (9) as yet, few competitor theories (at least, none that have been explicated and communicated to the same degree).

In short, DSRP Theory has more empirical evidence supporting it than any existing 'systems theory'¹⁵. The term *theory* is used loosely here as it is in the field writ large. Most of what exists in the field are opinioned, mostly unvalidated *frameworks*. These frameworks—many that have been around for some time and are popular—are not 'theories' like DSRP is, because a theory requires an accumulation of evidence. It should be further noted that establishing an *accumulation of evidence for a theory* requires both *basic* (existential) and *applied* (efficacy) research. To our knowledge, none of the existing frameworks for systems thinking have basic empirical evidence for their existence. In rare cases, there are efficacy studies which is a positive sign, but not a replacement for basic research that shows the existence of such claims. DSRP Theory has both a basic and applied evidence-base but the fishtank studies presented herein are efficacy studies. For more on DSRP Theory proper the reader should see these citations, many of which include full literature reviews and involve hundreds of empirical studies. DSRP Theory provides the underlying rule structure for the complex adaptive system that yields the emergent property we call systems thinking (or increased cognitive complexity).

¹⁵ 30; 31; 32; ? ; 33; 34; 35; 36; 28; 23; and 24

Empirical Findings of DSRP Across the Disciplines

There is an abundance of interest, literature, and empirical findings on DSRP patterns across the disciplinary spectrum (i.e., the physical, natural, social and applied sciences). The literature on distinction making¹⁶ and boundary judgments is well established, both in the cognitive sciences and the field of systems thinking. In the cognitive sciences (as well as the physical and natural sciences) it is clear that distinction making is existent¹⁷. In a review of literature, empirical studies illustrate both the universality of identity-other Distinctions across the disciplines¹⁸ and that Distinctions are integrated with other universals (Systems, Relationships, Perspectives)¹⁹.

¹⁶ 37; 38; 39; 40; 41; 42; 43; 44; 45; 46; 47; 48; 49; 50; 51; 52; 53; 54; 55; 56; 57; 58; 59; 60; 61; 62; 63; 64; 65; 66; 67; 68; 69; 70; and 71

¹⁷ 40; 45; 38; 39; 41; 43; and 44

¹⁸ 37; 38; 39; 40; 72; 41; 42; 43; 44; 45; 47; 48; 49; 50; 51; 52; 73; 53; 54; 55; 56; 58; 74; 75; 59; 60; 61; 62; 63; 64; 65; 66; 67; 68; 69; 70; and 71

¹⁹ 76; 77; 78; 79; 80; 81; 82; 83; 84; 85; 86; 87; 88; 89; 90; 91; 92; 93; 94; 95; 96; 97; 98; 99; 100; 101; 102; 103; 104; 105; 106; 107; 108; and 57

²⁰ 109; 28; 110; 39; 111; 112; 113; 114; 115; 116; 117; 118; 119; 120; 121; 122; and 123

²¹ 111; 112; 113; 115; 119; 121; and 122

²² 111

²³ 111; 112; 113; 121; 122; 99; 95; 92; 91; 105; 97; 93; 124; 120; 67; and 68

The literature on part-whole Systems²⁰ (a.k.a., grouping, sorting, categorization, organization, etc.) is well established, both in the cognitive sciences and systems thinking contexts. In the cognitive sciences (as well as the physical and natural sciences) it is clear that part-whole Systems are ever present²¹. In systems thinking literature, categorization has been said to be, "(...)predicted from the structure of the environment at least as well as it can from the structure of the mind²²." While categorization is more limited than part-whole Systems, the research done on categorization²³



has shown the fundamental existence of the Systems rule. It isn't new that categories are made through sorting parts into wholes, but what is new is that categories also imply a perspective, integrating the part-whole Systems rule into the rest of the DSRP theory. This critical insight—part of DSRP Theory—exposes the universality of part-whole systems at the theoretical level. In a review of literature, a number of empirical studies illustrate the universality of part-whole Systems across the disciplines²⁴ and part-whole Systems integrated with other universals (Distinctions, Relationships, Perspectives)²⁵.

The literature on Relationships²⁶ is also well established in both the cognitive sciences and systems thinking contexts. In the cognitive sciences (as well as the physical and natural sciences) it is clear that relationships are ever present²⁷. Causality (a term that refers to phenomena that is a subset of action-reaction Relationships) has been shown to be present in children²⁸, adults, and can be utilized as, "(...) a tool for gaining deeper understanding²⁹." Cabrera³⁰ expanded the definition of Relationships by demonstrating that: (1) all relational processes were cases of relationships between an action and a reaction variable and (2) that action-reaction relationships were not reserved merely for the systems' cause and effects alone, but were structural features occurring on fractal dimensions. This critical insight—part of DSRP Theory—exposed the universality of *action-reaction Relationships* at the theoretical level. This study empirically quantifies this theoretical construct. In a 2021³¹ review of literature, a number of empirical studies illustrate the universality of action-reaction Relationships across the disciplines³². It is also clear that Relationships are not enough. That they are necessary but not sufficient to explain an underlying, universal, structural grammar of cognition or to navigate the complexities of real-world systems. Empirical findings from the literature also reveal what DSRP Theory predicts: that action-reaction Relationships are integral with other universals (i.e., Distinctions, Systems, Perspectives)³³.

Perspective is one of the most important aspects of human cognition, given our status as social animals. In a literature review of perspective taking³⁴ a number of empirical studies show the universality of perspectives across the disciplines³⁵. In the cognitive sciences (as well as the physical and natural sciences) it is clear that perspectives are ever present³⁶. It is also clear that perspectives are not enough. That they are necessary but not sufficient to explain an underlying, universal, structural grammar of cognition. Empirical findings from the literature also reveal what DSRP Theory predicts: that point-view Perspective is integral with other universals (i.e., Distinctions, Systems, Relationships)³⁷.

Table 1 summarizes the basic and applied research questions that

²⁴ 110; 39; 111; 112; 113; 114; 115; 116; 117; 118; 119; 120; 121; 122; and 123

²⁵ 76; 78; 79; 80; 81; 82; 83; 84; 85; 86; 87; 88; 89; 90; 91; 92; 93; 94; 95; 96; 97; 98; 99; 100; 101; 102; 103; 104; 105; 106; 107; 108; and 57

²⁶ 125; 126; 127; 128; 129; 130; 131; 132; 133; 134; 135; 136; 137; and 138

²⁷ 128; 132; 133; 135; and 137

²⁸ 128; 133; 134; 135; and 138

²⁹ 137

³⁰ 28

³¹ 139

³² 39; 125; 126; 127; 128; 129; 130; 131; 132; 133; 134; 135; 136; 137; and 138

³³ 76; 78; 79; 80; 81; 82; 83; 84; 85; 86; 87; 88; 89; 90; 91; 92; 93; 94; 95; 96; 97; 98; 99; 100; 101; 102; 103; 104; 105; 106; 107; 108; and 57

³⁴ 140

³⁵ 141; 142; 143; 144; 145; 146; 147; 148; 149; 150; 151; 152; 153; 154; 155; 156; 157; 158; 159; 160; 161; 162; 163; 164; 165; 166; 167; 168; 169; 170; 171; 172; and 173

³⁶ 170; 158; 155; 147; 153; 142; 145; 144; 146; 148; 150; and 152

³⁷ 76; 78; 79; 80; 81; 82; 83; 84; 85; 86; 87; 88; 89; 90; 91; 92; 93; 94; 95; 96; 97; 98; 99; 100; 101; 102; 103; 104; 105; 106; 107; 108; and 57



animate this ecology of studies. This ecology of studies is summarized herein but the full peer-reviewed works are available for sets of studies (N=27) focused on identity-other Distinctions (D) ⁽³⁸⁾, part-whole Systems (S) ⁽³⁹⁾, action-reaction Relationships (R) ⁽⁴⁰⁾, and point-view Perspectives (P) ⁽⁴¹⁾ as well as three studies that cut across all four DSRP patterns ⁽⁴²⁾.

Overall, these data suggest the observable and empirical *existence*, *universality*, *efficacy*, and *parallelism* (between cognitive and ontological complexity) of D, S, R, and P respectively and collectively. And, with *high statistical significance* point to the conclusions and summaries in Tables 2, 3, 4, and 5.

³⁸ 19

³⁹ 20

⁴⁰ 21

⁴¹ 22

⁴² 18; and 17



Distinction (D) Studies Conclusions	Summary
Globally and universally, identity-other distinctions exist.	D_o^i exists.
Contrary to prevailing belief, things are defined not solely by their essence or accepted definitions, but also in relation to the <i>other</i> things they are with.	D_o^i is relative.
Distinctions are made at the individual and collective level.	D_o^i is universal.
At the individual level, people make a diversity of distinctions, collectively, they see things similarly.	In a pool of difference, we distinguish similarly.
We use: different names for different things; different names for the same things; same names for different things; and same names for the same things.	Left implicit, D confuses, made explicit D clarifies.
Cognitively speaking, there is a parallel invisible universe of not-things which provide the 'ether' for defining everything.	Negated identities matter.
Unstructured, people have a hard time getting their thinking started.	D-rule jump starts thinking.
Identity-other are both part-whole systems of is's and is-not's.	D is S-dependent.
We also know that the other is an identity.	i and o are interchangeable.
D-rule is dependent on S, R and P rules, and S, R and P rules are dependent on D-rule.	DSRP is massively parallel and fractal.
The more tangible and explicit things are, the easier it is for people to make identity-other Distinctions. People miss things when they are not tangible/explicit, which is a lot.	Awareness of D-rule decreases bias.
We know what people do and don't do that can help us improve thinking. Namely: Rarely consider the other; People rarely challenge existing distinctions; Rarely validate.	Awareness of D-rule improves thinking.
People have greater confidence than competence in Distinction making.	We are overconfident with D_o^i
A relatively short treatment in D-rule can dramatically affect cognitive ability and complexity.	"D-rule" makes you smarter.

Table 2: Summary Table of Conclusions from identity-other Distinctions (D_o^i) Studies Excerpted from Cabrera 2022



Systems (S) Studies Conclusions	Summary
People use part-whole thinking to navigate the world cognitively.	part-whole Systems (S) Rule exists.
The way people create part-wholes and the way they exist are not always aligned.	Awareness of S-rule can decrease bias.
Part-whole structures are not discrete (category theory) but fluid (DSRP theory).	Categories are not elemental. Part-whole is.
When people part-whole they use distinctions, relationships, and perspectives to do so.	S-rule is dependent on D, R, and P rules.
The Patterns and the Elements of D, S, R, and P are themselves, part-whole structures.	D, R, and P rules are dependent on S-rule.
Because part-whole groupings are DRP-dependent, there can be (and often is) a diversity of groupings.	People part-whole things differently.
At the same time (likely because we use the same human sensory apparatus to do so and nature has similar structure), we see patterns across part-whole groupings; they pick up on similar patterns that are likely part of our or natures' structure or both.	People part-whole things the same inside of their differences.
With regard to part-whole, we now know where people have ease and difficulty. Namely: they don't challenge preexisting part-wholes; they don't scale up (+1) and down (-1); they don't relate the parts (explicitly).	We can get better at doing part-whole thinking.
People overrate their abilities (competence/skill) in part-whole thinking.	We are overconfident.
Even a short metacognitive training in part-whole Systems ("S-rule") leads to increases in cognitive ability and cognitive complexity.	"S-rule" makes you smarter.

Table 3: Summary Table of Conclusions from part-whole Systems (S_w^p) Studies Excerpted from Cabrera, 2022



Relationships (R) Studies Conclusions	Summary
Globally and universally, action-reaction relationships exist.	R_r^a exists.
Contrary to prevailing belief, things are defined not solely by their essence or accepted definitions, but also in relation to the <i>other</i> things they are with. Distinctions are relational. People define things relative to other things.	Meaning is literally, <i>relative</i> .
Relationships are made at the individual and collective level.	R_r^a is universal.
At the individual level, people make a diversity of relationships, collectively, they see things similarly.	In a pool of difference, we relate things similarly.
Whenever two things share the same physical or conceptual space they have a potential for a relationship. This has big implications for bias, teaching & learning, marketing manipulation, etc.	Metacognition of R matters.
In the process of making Distinctions, people rely on relationships. The way they make relationships changes the Distinction they make. The relationality of ideas and objects can completely transform the ideas and objects.	Relationships are <i>transformative</i> .
Every relationship has an <i>action</i> and <i>reaction</i> variable where idea or object A has an A-like action on B; and vice versa.	I am a relationship. Hear me Rar. (R_r^a)
R-rule is dependent on D, S and P rules, and D, S and P rules are dependent on R-rule.	DSRP is massively parallel and fractal.
We know what people do and don't do with Relationships that can help us improve thinking. Namely: Rarely distinguish relationships; rarely challenge existing relationships; rarely systematize relationships; rarely think in webs of causality.	Awareness of R-rule improves thinking.
People have greater confidence than competence in seeing and making Relationships.	We are overconfident with R_r^a
A relatively short treatment in R-rule can dramatically affect cognitive ability and complexity.	"R-rule" makes you smarter.

Table 4: Summary Table of Conclusions from point-view Perspectives (R_r^a) Studies Excerpted from Cabrera 2022



Perspectives (P) Studies Conclusions	Summary
Globally and universally, point-view perspectives exist. Every perspective has a <i>point</i> and <i>view</i> variable.	P_v^p exists and is universal.
When we change the perspective, we change the distinctions, systems and relationships that we see. Perspective can cause people to see things that are not visible. Perspectives are not static. They can change when the context in which they occur changes. And, they can change the context.	Perspective is <i>transformative</i> .
P-rule is dependent on D, S and R rules, and D, S and R rules are dependent on P-rule.	DSRP is massively parallel and fractal.
When a perspective aligns with our own it is easier to take. When a perspective does not align with our own it more difficult to see.	Metacognition of P matters.
Perspective plays a role in choice. The act of choice <i>requires</i> an act of Perspective taking. Provided a perspective, people are able to choose, find, discover the answer faster. Without a perspectival filter, they have more difficulty.	Awareness of P-rule aids decisions/choices.
Explicit use of perspectives can be used to <i>constrain</i> or <i>expand</i> thought.	P-rule <i>governs</i> convergent or divergent thinking.
We know what people do and don't do with Perspectives that can help us improve thinking. Namely: Rarely make perspectives explicit; rarely take multiple perspectives; rarely take conceptual perspectives.	Awareness of P-rule improves thinking.
People have greater confidence than competence in perspective taking.	We are overconfident with P_v^p
People take both conceptual and physical perspectives but have more difficulty with conceptual ones. This difficulty limits their cognitive flexibility.	Increasing conceptual perspective taking increases cognitive flexibility.
Perspectives are made at the individual and collective level. At the collective level, the "wisdom of the crowd" emerges such that many perspectives are covered. We could improve individual cognition if we mimic the perspective-taking of this collective action.	P-rule is a powerful cognitive tool.
A relatively short treatment in P-rule can dramatically affect cognitive ability and complexity.	"P-rule" makes you smarter.

Table 5: Summary Table of Conclusions from point-view Perspectives (P_v^p) Studies Excerpted from Cabrera 2022



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