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# THE SIX LEVELS OF BEHAVIORAL PROFILE TYPES: FROM BEHAVIORAL DISADVANTAGES TO BEHAVIORAL DISORDERS

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**Abstract**

In this short paper, the authors begin by giving a general definition of what behavior is. From a wide range of deeds, they select a few key terms such as reactions and responses, processes and operations to explain what they mean as these terms play an important role in our understanding of what behavior is. From the definition of behavior, the authors move on to introduce the six different types of behavioral profile that can be divided into two categories. The first is of sociogenic origin consisting of Level #1 BD-Behavioral Disadvantages (lowest level and least severe), Level #2 BD-Behavioral Differences, and Level #3 BD-Behavioral Dimensions. The second is of neuro-psychogenic origin consists of Level #4 BD-Behavioral Difficulties, Level #5 BD-Behavioral Disabilities, and Level #6 BD-Behavioral Disorders (highest level and most severe). The rationale behind this paper is to inform counselors, educational therapists, teachers as well as parents and interested readers regarding the importance of differentiating among and between the different types of challenging behavior by recognizing the six different levels of behavioral profile according to the increasing degree of severity of behavioral challenges. In this way, appropriate early treatments can be planned to help resolve behavioral challenging issues encountered in the first BD category when these behavioral problems are still at the lower levels of severity. For more serious challenging behavioral issues seen in the second BD category, the

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treatments for such severe to profound behavioral conditions will be more complicated and they involve medical professionals such as psychiatrists and pharmacists, especially when medication (e.g., Zoloft, Adderall and Concerta) is included as part of the treatment plan. Other allied healthcare professionals such as behavioral psychologists, behavioral therapists and educational therapists may be included to provide intensive behavioral management/modification.

**Keywords:** behavior, behavioral difficulty, disability and disorder, behavioral management/modification, behavioral profile

## 1. What is Behavior?

When the word *behavior* is mentioned, most people will describe or imagine a child with bad behavior, someone (usually a boy) who misbehaves or displays an off-task behavior during a class lesson. In other words, it is our tendency to look at behavior in a negative light, usually in pathogenic sense. However, it should not be always the case because not every behavior is abnormal, aberrant or anomalous. Behavior, good or bad, acceptable or unacceptable, normal or abnormal, can happen anytime and can exist throughout the lifespan development of an individual, i.e., from infancy to late adulthood. For example, the disorganized infant behavior, identified in a nursing diagnosis of very young children, is an "*alteration in integration and modulation of the physiological and behavioral systems of functioning (autonomic, motor, state-organizational, self-regulatory, and attentional-interactional systems) in an infant*" (The Free Dictionary, 2017, para.2.4). As another example, disorganization observed in older children and/or adolescents can be a tell-tale sign of possible, organizational learning disorder or executive function disorder.

The word *behavior* in its general sense refers to a wide range of actions and mannerisms manifested by any artificial entity (e.g., a robot), a human individual like you and us, any non-human organism (e.g., a dolphin, a cat or a beetle) or even a system (e.g., an artificial intelligence or AI system that decides the behavior of a chatbot) in conjunction with itself within a given context that may include other systems or organisms in an inanimate environment. Reber, Allen and Reber (2009), in the Penguin Dictionary of Psychology, have also defined *behavior* (or behavioral act) as *"[A] generic term covering a wide range of deeds such as acts, activities, responses, reactions, movements, processes, operations, etc."* (p.90).

Among the broad range of deeds, reactions and responses need to be elaborated further as they can be quite confusing to a layman. A behavioral reaction and a

behavioral response are not the same thing. According to Chia and Lim (2017a), any *behavioral reaction* is instinctual and it includes impulsivity and spontaneity, while any *behavioral response* is deliberate and thoughtful. The former can be expressed in one of the three forms of action – flee, fight and/or freeze – and it is needed for one's adaptive survival in a competitive or hostile environment, while the latter is needed for careful planning, proper organization and management of one's activities as it helps one to respond appropriately to the environment in order for one to be accepted by others (see Figure 1).

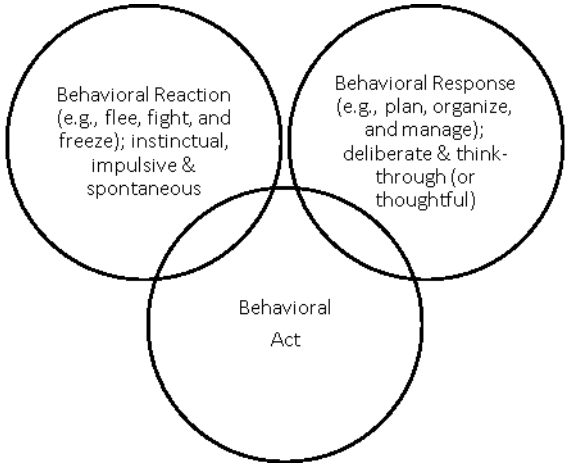


**Figure 1:** Behavioral Reaction and Response in a Behavioral Act

Another pair of deeds, i.e., processes and operations, also need to be clarified as they play an important part in understanding behavioral manifestation. The word *process* refers to a series of events or activities – happening either sequentially or simultaneously – that constitutes a behavioral act which can be internalizing (covert) (e.g., thinking and imagining) or externalizing (overt) (e.g., eating and running), or even both (e.g., writing, where one needs to conjure some ideas, create a plot and plan the storyline before putting down in a written form). The other word *operation* refers to task behavior – beginning with an intent of purposive act to the functional act of intent – that is being carried out to complete a process. For instance, reading a letter begins with an intent of purposive act that one desires to know what is written in the letter leading to the execution of the functional act of intent, i.e., decoding the message of the letter. Chia, Lim and Lee (2017) describe the intent of purposive act as an example of Tolmanian behavior while the functional act of intent is an example of Jamesian behavior (named after a renowned American experimental psychologist, William James, b.1842-d.1910), i.e., every conscious behavioral act has a function (see Hunt, 2007, pp.159-182, for detail).

According to Minton and Khale (2014), behavior is the response of a system or an organism to various stimuli or inputs, whether conscious or subconscious, overt or covert, externalizing or internalizing, and deliberate (voluntary/intentional) or instinctual (involuntary/unintentional). If an individual exhibits some form of externalizing or overt behavioral deficits, his/her disruptive behavioral act can be either deliberate or unintentional, e.g., inappropriate behavior or feelings disorders (see Chia, Lim, & Lee, 2017, for detail). Behavioral deficits can also be internalizing or covert, e.g., emotional disturbance and schizoaffective disorder. In fact, Lim, Chia and Lee (in press) hypothesize that there are two different sets of behavioral responses between individuals with deliberate disruptive behaviors (DDB) and those with disruptive behavioral disorders (DBD) (see Table 1 below).

**Table 1:** A Framework of Disruptive Behavioral Responses

| | *Deliberate disruptive behaviors* | Behavioral Responses (due to DDB) | | | | *Deliberate disruptive behaviors* | |
|---|---|---|---|---|---|---|---|
| Act of involving, or the state of being involved | **Active involvement** | To distract | To disturb | To disrupt | To destruct | **Active participation** | Act or process of participating |
| | **Passive involvement** | To be distracted | To be disturbed | To be irritated | To be bullied | **Passive participation** | |
| | **Intentional inattention** | Diversion | Interruption | Agitation | Devastation | **Intentional inattention** | |
| | **Unintentional inattention** | Distractibility | Disturbance | Disruption | Destruction | **Unintentional inattention** | |
| | **Passive involvement** | To be distracted | To be disturbed | To be irritated | To be bullied | **Passive participation** | |
| | **Active involvement** | To distract | To disturb | To disrupt | To bully | **Active participation** | |
| | *Disruptive behavioral disorders* | Behavioral Responses (due to DBD) | | | | *Disruptive behavioral disorders* | |

Briefly explained, according to Lim et al. (in press), on the one hand, for individuals with DDB, their deliberate behavioral responses can range from active involvement to active participation or vice versa: to distract → to disturb → to disrupt → to destruct. Their responses can range from passive involvement to passive participation or vice versa: to be distracted → to be disturbed → to be irritated → to be bullied. Their intentional inattention ranges from diversion → interruption → agitation → devastation.

On the other hand, according to Lim et al. (in press), for those with DBD, their unintentional behavioral responses (more accurately called *behavioral reactions* as they are more instinctual) can range from active involvement to active participation or vice versa: to distract → to disturb → to disrupt → to bully. Their responses can range from passive involvement to passive participation or vice versa: to be distracted → to be disturbed → to be irritated → to be bullied. Their unintentional inattention ranges from

distractibility → disturbance → disruption → destruction. Each of these behavioral responses (or reactions) from their respective acts can transition downward from the state of involving or the state of being involved beginning with DDB: active involvement → passive involvement → intentional involvement → unintentional involvement → passive involvement → active involvement of DBD, or vice versa, i.e., transition upwards from DBD to DDB; similarly, it is the same downward direction from the act or process of participating that begins with DDB: active participation → passive participation → intentional participation → unintentional participation → passive participation → active participation in DBD, or vice versa, i.e., transition upwards from DBD to DDB. However, the changing pattern of the different levels of behavioral profile does not transition in one direction, i.e., downwards or upwards. It also transitions across each row from left to right and vice versa.

In this paper, we have chosen to narrow our focus on human behavior, which we believe is very much influenced by the endocrine system as well as the nervous system. However, it is not within the scope of this paper to delve on the influence of the biochemical aspect of human behavior. What we need to know is that the behavioral complexity of an individual or organism is very much correlated to the complexity of its nervous system. Gregory (2015) argues that organisms like us and highly intelligent mammals (e.g., dolphins and the Old-World primates such as gorillas and chimpanzees) with more complex nervous systems have a greater capacity to learn or acquire new responses and, therefore, are more capable of adjusting their behavior to adapt to their environment.

## 2. The Six Types of Behavioral Profile

To understand behavior, we need to be aware of the several different types of behavioral profile that, in turn, can be expressed in six levels of behavioral challenges. These six levels can be divided into two main categories of behavioral challenges according to their onset conditions of origin: (1) sociogenic behavioral conditions; and/or (2) neurogenic, psychogenic or neuro-psychogenic behavioral conditions.

### 2.1 Sociogenic Behavioral Conditions

As already mentioned above, the first category of behavioral conditions is more of sociogenic origin, i.e., such behaviors can arise from or imposed by the society to which an individual belongs. These behaviors can also be motivated by social influences, values or constraints. This category of behaviors can be sub-divided into three levels (beginning with the lowest level that is least challenging) as follows (see Figure 2):

- Level #1 BD-Behavioral Disadvantages (lowest level and least severe);
- Level #2 BD-Behavioral Differences; and
- Level #3 BD-Behavioral Dimensions.

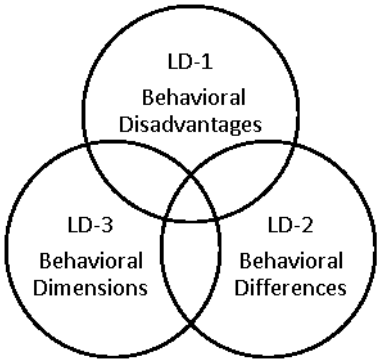


**Figure 2:** The Three BD Types of Sociogenic Origin

**BD-1 Behavioral Disadvantages.** The term *Behavioral Disadvantages* refers to behavioral challenges resulting from social disadvantages such as dysfunctional family, lack of appropriate experiential exposure, civil unrest and poverty. This BD-1 can be further sub-categorized into four subtypes:

i. No issue of behavioral disadvantages;
ii. Behavioral disadvantages due to inadequate environmental experiences (because of financial difficulty or poverty, for instance);
iii. Behavioral disadvantages due to socio-cultural differences (e.g., coming from a minority race or of a different religious faith); and
iv. Behavioral disadvantages due to lack of appropriate behavioral model of experiences (e.g., growing up in a dysfunctional family).

It is important for all educators, counselors, social workers, youth workers and educational therapists as well as those who are in one way or another working with children and youth to be able to differentiate between a child/youth with behavioral disadvantage/s and another with a *real* behavioral difficulty, disability or disorder. The former is more of sociogenic nature; the latter, psychogenic or neurogenic.

**BD-2 Behavioral Differences.** In *Behavioral Differences*, an individual's behavior is affected by his/her preferred sensory perceptuo-behavioral style based on the most dominant sensory perceptuo-motor coordination and processing used frequently in social interaction with others in any environment. There are three key sensory perceptuo-behavioral styles: auditory-sequential, visual-spatial and kinesthetic-tactile. This BD-2 can be further sub-categorized into four subtypes depending on the preferred dominant sensory perceptuo-behavioral style(s):

i. No issue of sensory perceptuo-behavioral concern;

ii. Auditory-sequential behavioral style is the preferred/dominant choice and it can be further sub-divided into two specific subtypes:
ii.a) Auditory-sequential/Visual-spatial behavioral style; and
ii.b) Auditory-sequential/Kinesthetic-tactile behavioral style;
iii. Visual-spatial behavioral style is the preferred/dominant choice and it can also be further sub-divided into two specific subtypes:
iii.a) Visual-spatial/Auditory-sequential behavioral style; and
iii.b) Visual-spatial/Kinesthetic-tactile behavioral style; and
iv. Kinesthetic-tactile behavioral style is the preferred/dominant choice and it can also be further sub-divided into two specific subtypes:
(iv.a) Kinesthetic-tactile/Visual-spatial behavioral style; and
(iv.b) Kinesthetic-tactile/Auditory-sequential behavioral style.

Unlike the previous level mentioned earlier, behavioral differences are more of sensory preferential nature. There are cases when an outcome of a preferred/dominant sensory perceptuo-behavioral style results in another sensory perceptuo-behavioral style. Such a condition is known as synesthesia – "*a neurological condition in which stimulating one sensory or cognitive pathway can lead to automatic, involuntary experiences in a second sensory or cognitive pathway*" (Chia & Lim, 2017b, p.654). According Mroczko-Wąsowicz and Nikolić (2014), their proposed semantic vacuum hypothesis explains that during childhood when a child is so intensively engaged with abstract concepts for the first time that synesthesia develops. As a result, the most common forms of synesthesia involve grapheme-color, spatial sequence and numerals. Research (e.g., Baron-Cohen et al., 2013; Bogdashina, 2016; Bor, Billington, & Baron-Cohen (2008) has found that it co-exists with autism spectrum disorder.

**BD-3 Behavioral Dimensions.** Behavioral Dimensions, where the singular noun *dimension* refers to two key aspects of behavior: behavioral adaptability (i.e., behavioral aptitude) and behavioral responsivity (i.e., behavioral attitude). The former concerns how an individual's behavior is modified or changed over time to adapt to the environment to ensure his/her own survival (e.g., as a member of a minority race, an individual needs to adapt his/her behavior to ensure social acceptance by the majority others). The latter concerns an individual's neurological threshold and behavioral response/self-regulation that are based on the administration of the Sensory Profile for adolescents and adults (Brown & Dunn, 2002), for instance. This BD-3 can be further categorized into four subtypes:

i. No issue of concern for both behavioral aptitude and attitude;
ii. Cannot behave (but want to behave) due to other issues such as health impairments, learning disabilities and/or emotional disturbance;

iii. Will not behave (but might behave) unless given strict behavioral guidelines, observational checklists, etc. to govern inappropriate behaviors; and
iv. Do not care to behave, e.g., *la belle* indifference.

**2.2 Neuro-psychogenic Behavioral Conditions**

The second category of behavioral conditions is more complicated as they can be of psychogenic, neurogenic or even of both (neuro-psychogenic) origins. Of the psychogenic origin, the behavioral conditions are said to be of mental origin or causation. Such behaviors are related to emotional issues and related to psychological development or psychogenesis. These behavioral conditions include conversion reactive syndrome and pervasive mood disorder. Of the neurogenic origin, the behavioral conditions originate in the nervous system (e.g., malformation of nervous tissue can result in some kind of pathogenic behavior) and related to neurological development or neurogenesis (e.g., hypo- or hyper-neural connectivity in certain cortical loci can cause aberrant behaviors in people with autism spectrum disorder), or caused by nerve impulses, or from a lesion in the nervous system (e.g., a cerebral lesion on the Wernicke's Area results in the aphasia that causes severe comprehension deficit but no problem with speech production), which also includes the brain (e.g., a full agenesis of corpus callosum can result in poor communication between the left and right cerebral hemisphere). This second category of behaviors (see Figure 3) can be sub-divided into three levels (the highest level is the most severe and challenging) as follows:

- Level #4 BD-Behavioral Difficulties;
- Level #5 BD-Behavioral Disabilities; and
- Level #6 BD-Behavioral Disorders (highest level and most severe).

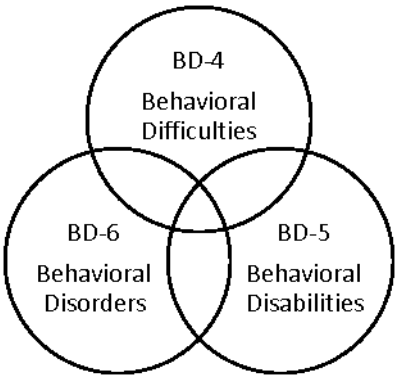


**Figure 3:** The Three BD Types of Neuro-Psychogenic Origin

**BD-4 Behavioral Difficulties.** The term *Behavioral Difficulties* refers to specific difficulties relating behavior, which can be classified under different behavioral

levels/types according to different behavioral manifestations described by Chia, Lim and Lee (2017) (see Table 2 below).

**Table 2:** Selected Levels of Behavioral Manifestations

| **Behavioral Levels & Types** | **Behavioral Acts (with selected examples)** |
|---|---|
| Level #1: Pavlovian behavior | Reflexive/involuntary behavioral acts: E.g., one's ears involuntarily pick up noises in a crowded place; this is not the same as eaves-dropping which is a deliberate act. |
| Level #2: Watsonian behavior | Explicit/directly observable behavioral acts: E.g., a student is reading a storybook aloud. |
| Level #3: Skinnerian behavior | Effects of behavioral acts on the environment: E.g., a child throws temper tantrum on a busy street and attracts unwanted attention from the passers-by who may look annoyingly at his parents. |
| Level #4: Tolmanian behavior | Goal-directed behavioral acts: E.g., an explorer makes a cognitive/mental map of how to get his destination from his base camp since he has lost his compass. |
| Level #5: Hullian behavior | Empirical/experiential behavioral acts are consisted of a number of factors that can be expressed in equations to calculate the exact effect of each of those factors. |

**Source:** Chia, Lim, & Lee, 2017, p.52

This BD-4 can be further sub-categorized into four specific subtypes:

i. No issue of concern;
ii. Difficulties as a result of *can behave but does not behave* (reluctant compliance);
iii. Difficulties as a result of *can behave but with problems* (disabled compliance); and
iv. Difficulties as a result of *cannot behave because does not know how to behave* ("illiterate" compliance).

**BD-5 Behavioral Disabilities.** The term *Behavioral Disabilities* refers to developmentally inappropriate behavioral functions as a result of developmental delays in terms of one or more of the following domains: language and communication, intellectual or cognitive capacity, physical or psychomotor ability, socio-emotional relationships, and adaptive behavior. This BD-5 can be further sub-categorized into the following four subtypes:

i. No issue of concern;
ii. Disability due to developmental delay in one specific area;
iii. Disability due to developmental delays in two or more areas (but not all); and
iv. Disability due to developmental delays in all aspects of life.

The traits of behavioral disabilities can be described as aberrant, abnormal or anomalous. Most of the time, at this fifth level, a psychologist, behavioral therapist, educational therapist or counselor will play an important role in providing coping strategies for the individual concerned.

**BD-6 Behavioral Disorders.** The term *Behavioral Disorders* is "*a general concept that refers to any type of behavioral abnormality that is functional in origin*" (The Free Dictionary, 2017, para.2.3). This BD-6 is at the highest among the six levels and it can be further sub-categorized into four subtypes:

i. No issue of concern;
ii. Verbal Behavioral Disorders;
iii. Non-Specific Behavioral Disorders (i.e., such behavioral disorders can be a mixture of both verbal and non-verbal behavioral types); and
iv. Non-Verbal Behavioral Disorders (i.e., the physical type of behavioral disorders).

This is the level where the BD-6 becomes a chronic behavioral challenge manifested by an individual, with or without a prospect of positive prognosis. A diagnosis of BD-6 will involve a transdisciplinary professional team consisting of a psychiatrist, a pharmacist, a psychologist as well as other allied professionals such as occupational therapist, behavioral therapist, educational therapist and counsellor.

## 3. Treatments for Challenging Behavior

Between the two BD categories, the treatment for the first category of behavioral challenges (i.e., BD-1, BD-2 and BD-3) should involve parents, teachers and counselors as co-partners in a tripartite approach (see Figure 4) to address behavioral issues at these three levels. It is quite obvious that these three levels of behavioral challenges are still very much within their means to manage and they are the best people who know and understand the child well enough to provide the necessary assistance and support needed to reduce or resolve the behavioral problems.

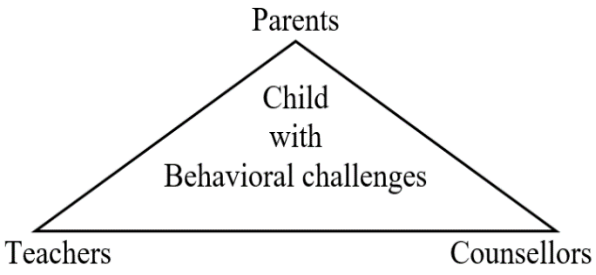


**Figure 4:** Tripartite Approach in addressing BD-1, BD-2 and BD-3

However, the more serious challenging issues of behavioral concern are found in the second category of BDs (i.e., BD-4, BD-5 and BD-6). The plan of action for this second BD category is likely to involve specially trained and experienced professionals such as behavioral psychologists, behavioral therapists and educational therapists who can design as well as provide intensive behavioral management/modification programs. Another important group of professionals providing treatment in managing severe behavioral challenges come from the medical field. This includes the psychiatrists and pharmacists, especially when medication (e.g., Zoloft, Adderall, Ritalin and Concerta) is required to treat very severe to profound aggressive behavioral problems.

According to Chia and Wong (2014), children with behavioral challenges (regardless of first or second category of BDs) are best understood by examining the risk and protective factors. The former refers to elements that cause a child to exhibit challenging behavior such as stealing, responding inappropriately and acting aggressively toward others. The latter refers to elements that enable a child to avoid displaying challenging behavior. The risk factors can be categorized under the following two types (Kaiser & Rasminsky, 2012):

1) Biological risk factors, e.g., genetic influences, temperament, pregnancy complications, substance abuse during pregnancy, neurological problems, and emotional-behavioral disorders; and
2) Environmental risk factors, e.g., parenting style, family background, peers, child care and school, poverty and the conditions surrounding it, exposure to violence, violent media, and turbulent times.

The protective factors are important to counter the negative impact of risk factors. These factors are also termed as resilience (Werner, 2000) – a dynamic, developmental process which depends on a given context (Luthar, Cicchetti, & Becker, 2000) – that involves a strong sense of self-efficacy (i.e., a belief in self-worth and abilities), together with an internal locus of control (i.e., an ascription to one's efforts and abilities for success rather than sheer luck). According to Kaiser and Rasminsky (2012), "*the more protective factors there are and the better they balance the risk factors, the more likely it is that a child will meet the challenges in his life and turn out to be a competent and caring individual*" (p.43; also see Werner, 2000, for more detail). There are three categories of protective factors (Kaiser & Rasminsky, 2012):

1) Individual factors such as an outgoing temperament, a good sense of humor, a good regulation of emotions, an optimistic outlook for the future, to name just a few;
2) Family factors include a high-quality parenting and a loving relationship that sets the foundation for a wide array of skills such as "*well-modulated emotions, a*

*sense of self-efficacy, academic achievement, mastery of motivation, and sociability with peers*" (Kaiser & Rasminsky, 2012, p.46); and

3) Community factors such as churches and community clubs play an important role in fostering resilience, making a child feel loved and valued, and even compensate for a challenging familial situation (Kaiser & Rasminsky, 2012).

In Malaysia and Singapore, for instance, the conventional treatment program (see Figure 5) for individuals diagnosed with BD-4, BD-5 and BD-6 consists of two key types:

1) Pharmacological treatment (drug therapy) is administered alone;
2) Behavioral management or modification is done alone;
3) Pharmacological treatment is administered first before behavioral management comes next; or
4) Pharmacological treatment and behavioral management are done concurrently.

In most instances, both types of intervention are being administered concurrently with the pharmacological treatment being gradually reduced over a period of time while the number of sessions involving behavioral management is being increased.

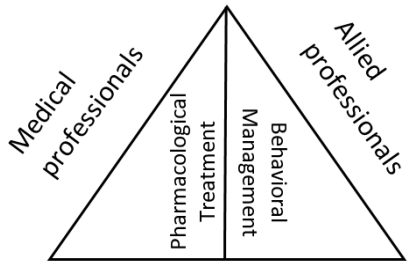


**Figure 5:** Conventional Treatment for addressing BD-4, BD-5 and BD-6

In many Asian countries, parents who have children with severe behavioral disabilities and disorders often seek alternative help in allopathic and naturopathic treatments. There is a difference between these two forms of treatment. According to Ramsey (2013), *"[T]he primary goal of allopathic medical practices is to diagnose and treat a disease through suppression or removal. In this instance, the patient is a result of the healthcare being offered*" (Ramsey, 2013, para.1). On the other hand, "*[T]he primary goal of naturopathic medicine is to diagnose and treat a disease process through supporting and strengthening the body's natural resources. In doing so, the patient is highly involved and therefore plays a large role in the outcome of the healthcare being offered*" (Ramsey, 2013, para.2). In both forms of treatment, BD-4, BD-5 and BD-6 are treated like a disease of behavior. It is still debatable among the professionals if allopathic and/or naturopathic treatments are effective in treating behavioral disabilities and/or disorders.

## 4. Conclusion

Table 3 below provides a summary of the six levels of the behavioral types.

**Table 3:** A Summary of the Six Levels of Behavioral Profile

| Levels | Codes | Behavioral Types | Origin Types |
|---|---|---|---|
| Level #1 | BD-1 | Behavioral Disadvantages | Sociogenic |
| Level #2 | BD-2 | Behavioral Differences | |
| Level #3 | BD-3 | Behavioral Dimensions | |
| Level #4 | BD-4 | Behavioral Difficulties | Psychogenic |
| Level #5 | BD-5 | Behavioral Disabilities | Neurogenic |
| Level #6 | BD-6 | Behavioral Disorders | Neuro-Psychogenic |

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