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EDU2017-2357**

**Teaching the Whole Brain in Performance-Driven School  
Culture: Immersing Affective Behavioral-Cognitive Instruction  
within the Constructs of the Academic Curriculum**

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This paper should be cited as follows:

**Granger Ellis, R. and Speaker, R. Jr. (2018). “Teaching the Whole Brain in Performance-Driven School Culture: Immersing Affective Behavioral-Cognitive Instruction within the Constructs of the Academic Curriculum”, Athens: ATINER'S Conference Paper Series, No: EDU2017- 2357.**

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8 Valaoritou Street, Kolonaki, 10671 Athens, Greece  
Tel: + 30 210 3634210 Fax: + 30 210 3634209 Email: info@atiner.gr URL:  
www.atiner.gr  
URL Conference Papers Series: www.atiner.gr/papers.htm  
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ISSN: 2241-2891  
08/01/2018

**Teaching the Whole Brain in Performance-Driven School  
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**Abstract**

The spotlight on violence by bright individuals questions why some gifted minds thrive in life and others fail to fulfill their potential. An extensive body of research and literature establishes the social and emotional needs of gifted youth. Several unique personality and intellectual characteristics distinguish gifted individuals; these may appear as strengths, but there is the potential for social and emotional problems to accompany them. When education focuses heavily on the intellectual aspect to the detriment of all other components, it will inevitably lead to uneven psychological development, which exacerbates a gifted individual's asynchronous development. Typically, aspects of the socio-affective domain have been studied separately: cognitive theories focus on judgment, biological and psychoanalytic theories on emotions, and social learning theories on behavior. Today, a growing body of research in neuroscience, neuropsychology, psychiatry, and education reveals that all three components are interrelated, interconnected, and interdependent. Numerous frameworks and models teaching various nonintellectual branches of child development have been debated in curriculum development, but research is inconclusive on the effectiveness of these programs. Based on the growing body of neuro-education research, psychological development must be encouraged in all domains simultaneously. The proposed curricular paradigm combines the various theories of psychological/cognitive, social/behavioral, and emotional/ affective development within the constructs of the academic curriculum.

**Keywords:** socio-affective development, moral development, socio-affective education, gifted education, neuro-education.

## Introduction

Most current definitions and theories of giftedness extend beyond academic abilities to include nonintellectual characteristics. Examining development in these socio-affective domains can provide insight into why some gifted children are not always successful in adulthood despite advanced IQ scores. Particularly whether nonintellectual characteristics of gifted individuals, such as emotional, social and moral capabilities, are as advanced as their intellectual abilities and how these are related to each other.

An extensive body of research and literature establishes the social and emotional needs of gifted youth. Some theorists posit that nonintellectual characteristics, such as social/ interpersonal intelligence (Gardner, 1983, 1999), emotional intelligence (Goleman, 1995; Piechowski, 1979, 1991), wisdom (Sternberg, 2000, 2003), and moral sensitivity (Silverman, 1994) are independent areas of giftedness. Although termed nonintellectual, these affective domains combine with cognitive processes as necessary interplay for giftedness, thereby reinforcing the notion that giftedness is a complex intertwining of components in which development can be promoted (Csikszentmihalyi, Rathunde, & Whalen, 1997; Feldhusen, 1992, 1994; Gagné, 1991, 1995; Lee & Oszewski-Kubilius, 2006; Piirto, 1994; Tannenbaum, 1986; Treffinger & Feldhusen, 1996).

Several unique personality and intellectual characteristics distinguish gifted individuals; these may appear as strengths, but there is the potential for social and emotional problems to accompany them (Clark, 2002; Neihart, Reis, Robinson, & Moon 2002; Seago, 1974; Webb, 1994). In the affective domain, gifted adolescents face special intrapersonal, interpersonal, and environmental problems. Gifted individuals' cognitive, psychological, emotional, and physical development occurs in multidimensional layers at different rates and unevenly across ability levels. They are exceptionally advanced in some areas and underdeveloped in others, which often results in poor coping skills, extreme sensitivity, intense frustration, and emotional outbursts. This asynchrony intensifies as the individual's intellectual capability increases (Goerss, 2005; Morelock, 1992; Neville, Piechowski, & Tolan, 2012; Schwartz, 2013; Webb & Kleine, 1993; Webb, Meckstroth, & Tolan, 1985; Webb, Gore, Amend, & DeVries, 2007; The Columbus Group, 1991). Although many gifted students thrive in their school and community environments, some struggle due to emotional intensity, motivation and underachievement issues, lack of peers and isolation, identification problems, sensitivity to expectations and feelings, perfectionism, depression, and anxiety. It is estimated that 25% of gifted individuals have social and emotional difficulties, which is more than double that of the general student population (Amabile, 1989; Davis & Rimm, 1994; Gallagher, 1991; Grobman, 2006; Jackson & Peterson, 2003; Kim, 2008; Mendaglio & Peterson, 2007; Moon, 2009; Peterson, 2008, 2009; Peterson & Ray, 2006; Peterson & Rischar, 2000; VanTassel-Baska, Cross, & Olenchak, 2009; Oliphant, 1986; Ritchie, 1980; Robinson, 1980; Webb, Amend, Webb, Goerss, Beljan, & Olenchak, 2005; Winner, 1996).

The lives of gifted youth are very complicated because of their asynchronous development and social and emotional difficulties, which can develop into more serious challenges and be devastating enough to alter their decisions and actions. (Delisle, 2013; Garland & Zeigler, 1999; Neihart, 1999, 2009; Neihart et al., 2002; Rowley & Amend, 2005; Rowley & Olenchak, 2005; Seeley, 1984, 1993). School environments can be the most serious problem because they spend around seven hours a day (for 180 days) in this setting. It is not only the academically gifted that face these challenges but also the creatively gifted. An abundance of research has established highly creative students often underachieve, have serious school problems, exhibit undesirable characteristics, and have difficulty in traditional school settings (Amabile, 1989; Davis & Rimm, 1994, 1998; Oliphant, 1986; Ritchie, 1980; Robinson, 1980). Therefore, an interesting question is whether other characteristics of gifted individuals, including emotional, social or moral intelligence, are similarly advanced as their intellectual capabilities. Furthermore, what are the long-term effects of participation in certain gifted and talented programs on the socio-affective development of gifted adolescents?

Understanding the impact of various environments and curricula on gifted students' development in social, emotional, and moral intelligence is of utmost importance. Teachers and school environments can be highly influential in socio-affective (moral, social, and emotional) development, especially when educators attend to the curricular and environmental components that support positive developmental growth (Britner & Pajares, 2006; McKenzie, 2005; Schlaefli, Rest & Thoma, 1985; Usher & Pajares, 2006). However, if the educational environment is ill fitting or damaging, the consequences can be nearly unbearable (Davis & Rimm, 1994; George, 1992; Robinson, 2008). Understanding gifted individuals' socio-affective development patterns is fundamental to curriculum design. Examining how students acquire nonintellectual abilities, such as ethical decision making, intrapersonal abilities, interpersonal abilities, adaptability, stress management, and positive impression within a variety of school contexts and environments can help stakeholders (researchers, policymakers, curriculum developers, school districts, administrators, teachers, and parents) make decisions to best support gifted students' socio-affective development.

There are two predominant perspectives concerning psychological, socio-emotional, moral development, and wellbeing of the gifted and talented in the field of gifted education, with conflicting theories and contradicting research studies to support both views: (a) giftedness enhances socio-affective adjustment and resiliency or that (b) giftedness heightens vulnerability to developmental problems. McCallister, Nash, and Meckstroth (1996) argue that there is a discrepancy between research and experience in that some research studies portray a mostly positive depiction of gifted individuals, but studies based on experience are much more negative. Furthermore, the majority of research studies focus on gifted individuals who are identified as successful academic achievers and selected for special academic programs. Therefore, many profoundly or creatively gifted, minority or low socioeconomic gifted, learning-

disabled gifted students, and “at risk” or “maladjusted” gifted individuals are most likely underrepresented in research studies of social, emotional, and moral development and giftedness (Peterson, 1997, 1999). Consequently, data does not represent a complete picture of the gifted population; these studies examine specific high achieving gifted students in selective environments and do not fully examine diverse gifted populations and school environments.

## **Literature Review**

### *Socio-Affective Theoretical Frameworks and Giftedness*

Socio-affective merges the social, emotional, and moral domains. It encompasses interpersonal relation and social behaviors; development and regulation of emotions; personal and gender identity construction; empathy development; moral development, thinking, and judgment. It is an intricately and deeply interrelated network central to all cognitive processes relating to aspects of self and others (Amft, Bzdok, Laird, Fox, Schilbach, & Eickhoff, 2015). Constructs such as socio-emotional development, moral judgment development, intelligence and giftedness provide relevant information on the impacts of school environment on these nonintellectual domains.

Cognitive and personal factors, behavior, and environment are all interconnected and interdependent (Bandura, 1977). The major elements of emotional development are: self-awareness; handling feelings; self-motivation, mastery and control; empathy; and social competence (Goleman, 1995). Salovey and Pizarro (2003) added perceiving and expressing emotion (accurately and adaptively); emotional knowledge (ability to understand emotion); feelings to facilitate thought; and regulating emotions (self and others). Gardner (1999) and Mayer, Perkins, Caruso and Salovey (2001) connected interpersonal and intrapersonal intelligence to Goleman’s (1995) definition of emotional intelligence, asserting all areas deal with (1) knowledge, awareness, and control of one’s own and others’ feelings and (2) empathy with and sensitivity to emotional states. Sternberg (2000, 2003, 2010) combined interpersonal and intrapersonal abilities with extrapersonal (fits in the current context such as community, environment, or God) positing that wisdom comes from the intertwining and balancing of all three in all courses of action.

Moral development centers on the emergence, growth, and comprehension of morality, including reasoning, judgment, sensitivity, emotions, attitudes, beliefs, and behaviors. It encompasses principles for how individuals should to interact with one another, with respect to justice, care, and rights. It includes conscience and values, socialization and cultural influences, moral sensitivity and perspective-taking, empathy and altruism, and moral motivation and character (Bebeau, Rest, & Narvaez, 1999; Killen & Smetana, 2006; Narvaez, 2001). Numerous studies (Kohlberg, 1976, 1984; Turiel, 1983, 1997; Rest, 1986, 1993; Rest, Turiel, & Kohlberg, 1969) confirmed moral development is aided and reinforced by (1) cognitive maturation (cognitive development), (2)

gradual release from adult control (affective development), and (3) peer interaction (behavioral, social development). Moral understanding is promoted by disequilibrium (cognitive-moral conflict) and role-taking skills (perspective taking) (Kohlberg, 1969, 1976). Combining the affective domain with the cognitive domain of moral development, Piechowski (1979) emphasized self-actualization is concomitant with emotional sensitivity, compassion, and advanced moral development.

*Research on Socio-Affective Development and Giftedness*

The relationship between giftedness and psychological socio-affective development and wellness has most often been studied as a dichotomous question: are gifted individuals more vulnerable and at-risk for psychological problems and adjustment difficulties *or* developmentally advanced and less at-risk for maladjustment than their non-gifted peers? The empirical and theoretical evidence suggests that neither conclusion is completely accurate for gifted individuals. Studies have yielded contradictory results on how giftedness affects psychological development, particularly the relationships and correlations between intelligence and social and emotional ability, moral development, or altruism (Abroms, 1985; Baker, 1995; Berndt, Kaiser, & Van Aalst, 1982; Delisle, 1982, 1986; Eysenck, 1995; Freeman, 1983; Grossberg & Cornell, 1988; Janos, Marwood & Robinson, 1985; Lajoie & Shore, 1981; Leroux, 1986; Neihart, 1991; Parker & Mills, 1996; Prentky, 1980; Reynolds & Bradley, 1983; Richards, 1989; Scholwinski & Reynolds, 1985; Tomlinson-Keasey & Warren, 1987). Throughout the research supporting these contrasting views, one thing is evident: intellectual ability does influence social, emotional, and moral development. Rather than one theory or the other, the body of research suggests numerous factors intertwine together to positively or negatively affect the psychological and socio-affective development and adjustment of gifted individuals, specifically educational fit and curricula, environment, areas of giftedness, levels of IQ, and psychosocial personal characteristics.

Some research studies show that gifted individuals, due to their advanced cognitive capabilities, exhibit better adjustment than their age-mates when measured on a range of psychosocial factors (Baer, 1991; Baker, 1995; Kaiser, Berndt, & Stanley, 1987; Howard-Hamilton & Franks, 1995; Janos & Robinson, 1985; Narvaez, 1993; Neihart, 1991; Scholwinski & Reynolds, 1985). Moreover, gifted individuals are presumed to mature to higher levels of moral development because of their advanced intellectual growth and cognitive abilities (Andreani & Pagnin, 1993; Garland & Zigler, 1999; Gross, 1993; Howard-Hamilton, 1994; Karnes & Brown, 1981; Tan-Willman & Gutteridge, 1981). Some researchers argue that gifted individuals are characterized by emotional resilience, mental flexibility, and the ability to think positively, and that these characteristics may account for superior emotional adjustment. Numerous research studies have linked intellectual giftedness with higher levels of emotional development (Ackerman, 1997; Breard, 1994; Gallagher, 1986; Miller, Silverman & Faulk, 1994; Piechowski & Colangelo, 1984; Schiever, 1985).

Additional studies have found intellectual giftedness or advanced cognitive function correlates with advanced moral reasoning ability and appears to show a relationship with moral and ethical sensitivity (Andreani, 1992; Andreani & Pagnin, 1993; Folsom, 1998; Howard-Hamilton, 1994; Janos, Robinson, & Sather, 1983; Lee & Olszewski-Kubilius, 2006; Silverman, 1994).

However, gifted individuals are not a homogenous group, and upon closer examination, findings of several studies reveal that the moderately gifted are superior to the highly gifted in social and emotional development, and research results showing favorable social development come from studies of moderately gifted individuals not extremely gifted individuals (Andreani & Pagnin, 1993; Riyanto & Mönks, 2002). Extremely gifted individuals are acutely sensitive and reactive to social stimuli and are therefore more susceptible to environmental conditions more vulnerable and are often “out of synchrony” with gifted and non-gifted peers (Freeman, 1985, 1991; Janos & Robinson, 1985). Tirri and Pehkonen (2002) concluded that moral sensitivity (affective) and moral motivation (behavior) were required for mature moral judgment in scientific moral dilemmas and that higher levels of science ability correlated with lower levels of moral development. Lee and Olszewski-Kubilius (2006) corroborated these results, finding that higher levels of mathematical ability correlated with lower levels of moral judgment and reasoning. The more profound the intellectual giftedness, the more likely the individual is to experience maladjustment (Dauber & Benbow, 1990; Garland & Zigler, 1999; Roedell, 1986).

The opposite side of the dichotomy argues that gifted individuals are at greater risk for adjustment difficulties than non-gifted peers. Although gifted adolescents experience similar developmental issues as other adolescents, they are complicated by unique social-affective needs and characteristics of giftedness. A significant number of research studies support this view (Andreasen, 1988; Dauber & Benbow, 1990; Jamison, 1993; Janos & Robinson, 1985; Grossberg & Cornell, 1988; Miller et al., 1994, Richards, 1981; Roedell, 1986; Rothenberg, 1990; Silverman, 1993; Tannenbaum, 1983, 1997). High intelligence may occur at the expense of emotional intelligence and social skills development for some gifted students (Miller et al., 1994). Lee and Olszewski-Kubilius (2006) also found emotional and social development to be underdeveloped as an asynchronous characteristic of academic giftedness. Aspects particular to giftedness (intensity, dominance, perfectionism, competitiveness, hypersensitivity, and inadequate educational fit) cause problems for some gifted individuals, thereby leading to anxiety, conflict, and inappropriate behavior (Abroms, 1985; Freeman, 2010). Lee and Olszewski-Kubilius (2006) found that although gifted individuals scored higher on moral development scales, they scored statistically below the age normative sample on psychometric scales of emotional and social intelligence. Gifted adolescents scored higher on flexibility and problem solving but had considerably lower scores on stress management, tolerance, and emotional control and impulse control ability compared to the non-gifted age normative sample. The researchers concluded that gifted males and females were “more prone to being upset or angry, or were not good at controlling anger or impulses compared to the normative sample” (p. 52) and compared to



other students of their age in emotional intelligence, displayed “potential areas of vulnerability and weakness that need further investigation” (p. 61). Gifted individuals experience greater levels of stress, disaffection, sensitivity, introversion, and isolation than non-gifted individuals due to their advanced cognitive abilities, and heightened sensitivity to interpersonal conflicts, which makes them more vulnerable to potential psychological problems than their less able peers (Cross, Coleman, & Stewart, 1995; Janos, Fung & Robinson, 1985; Nelson 1989; Riyanto, 2002). Some studies found that regardless of academic achievement and ability levels, gifted adolescents were more concerned with interpersonal relationships over higher moral orientations of societal rules, life and death, and self-concept and were no different than average adolescents in this regard (Colangelo, 1982; Tirri, 1996, 2003; Tirri & Pehkonen, 2002; Yussen, 1977).

Research studies of high intelligence and morality found no empirical evidence connecting advanced intelligence and mature moral judgment with actual moral behavior (Abroms, 1985; Rothman, 1992; Janos & Robinson, 1985; Pagnin & Adreani, 2000; Tirri & Pehkonen, 2002; Tirri, 2011). Lee and Olszewski-Kubilius (2006) concluded that, “advanced cognitive reasoning abilities may help an individual understand the nuances of a moral dilemma or a political situation, but they do not propel gifted students to take the right actions” (p. 60). Likewise, Narvaez (1993) contends that in real life, moral dilemmas require abilities besides abstract moral reasoning (as measured by psychometric instruments); real life dilemmas are intertwined with social and affective components, which play a vital role in moral behavior.

A considerable amount of research indicates many highly gifted individuals suffer from psychological disorders (Jackson, 1998, 1995; Jamison, 1989, 1993; Piechowski, 2002). However, these disorders are not often apparent or manifest later in life because highly gifted adolescents have the ability to conceal or mask various characteristics of severe psychological issues and disorders (Jackson, 1995; Jackson & Peterson, 2003). Lubinski and Benbow (2000) argue that gifted individuals do not necessarily outwardly exhibit social problems, but instead characterize it as a heightened sensitivity to interpersonal conflicts. Researchers further contend that gifted individuals are more susceptible to delinquency and deviant behavior than other adolescents because of their moral, social, and emotional asynchronous development (Brooks, 1985; Gowan & Demos, 1964; Jamison 1989, 1993; Peterson & Craighead, 1986). Studies have shown a correlation between high intellect and psychiatric disorders (Garner, 1991; Tong & Yewchuck, 1996; Parker, 1996). A large number of studies have established a relationship between creative giftedness and mood disorders (major depression, dysthymia, suicide, and bipolar disorder or manic-depressive) in adults (Andreasen, 1988; Cornell, 1989; Feldman, 1989; Hayes & Sloat, 1990; Jamison, 1993; Lajoie & Shore, 1981; Panter, Panter, Virshup and Virshup, 1995; Pickford, 1981; Richards, 1981; Rothenberg, 1990). Furthermore, several studies found similarities in the thought processes of manic, psychotic, and highly creative people (Jamison, 1989, 1993; Prentky, 1980; Rothenberg, 1990; Rothenberg & Burkhardt, 1984). According to studies of mass violence instances

in the United States since Columbine (2005-2012), 85% of the perpetrators were in fact gifted and talented students or in retrospect (by their characteristics, test scores, or grades) could now be identified as gifted (Delisle, 2013; Rowley & Olenchak, 2005; Webb et al., 2005). Studies on gifted individuals and deviant behavior and crime have also shown that there is no relationship between IQ and moral development (Brooks, 1985; Gath & Tennent, 1972; Gath et al., 1970). Gifted individuals can reach Kohlberg's and Dabrowski's highest developmental stages, but still inflict mass destruction; thereby reinforcing that there is no correlation between moral reasoning and moral behavior (McClaren, 1993; Piechowski, 1997). Eysenck (1995) reviewed more than a century of research and concluded that genius was correlated to high scores on his psychoticism scale and argued that genius requires psychopathology. This sobering assessment has led many experts in the field of gifted development to study this phenomenon and possible interventions.

*Comprehensive Paradigm: Integrative Frameworks*

For nearly a century, philosophers, psychologists, sociologists and educators have theorized and studied the development of social and emotional skills and moral reasoning of high achieving individuals. Numerous and lengthy studies have researched moral, social, and emotional development in the areas of cognitive-development, psychoanalytic, and behavioral learning; however, in almost all cases, these three facets have been studied separately leading to many divergent theories and frameworks. An increasing body of research (Markus & Wurf, 1987; Fischer & Bidell, 1998; Spencer & Schöner, 2003; Thelen & Smith, 1998; Fogel, 2000, 2001; Lewis, 2000; Granic, Hollenstein, Dishion, & Patterson, 2003) has established all three aspects as interconnected and interdependent.

More recently, socio-moral theorists, neuroscientists, psychologists, and educators have emphasized a merging of the three schools of thought (cognitive, behavioral, and affective) for comprehensive socio-affective development (Narvaez, 2006; Berk, 2009; Battistich, Solomon, Watson, & Schaps, 1997; Benson, Leffert, Scales, & Blyth, 1998; Huitt, 2011; Narvaez & Rest, 1995), arguing that internalization of societal norms (behavioral) must be accompanied by cognitive-development goals of moral reasoning (both justice and empathy), and care (affective). Many neuro-education theorists believe moral judgment cannot be separated from the social or affective realms. Social and affective factors play a vital role in moral decision-making and moral behavior (Bebeau et al., 1999; Narvaez, 1993; Rest, 1994; Tirri, 2002).

*Neuroscience, Neuropsychology, and Neuroeducation*

Studies and theories in neuroscience and neuropsychology, which have established the symbiotic nature of the developmental domains outlined above; the processes of the brain are interdependent and intertwined and cannot be separated (Adolphs & Damasio, 2001; Barnard, Duke, Byrne, & Davidson,

2007; Duncan & Barrett, 2007; Fischer & Bidell, 1998; Eder & Klauer, 2007; Fogel, 2000, 2001; Granic, Hollenstein, Dishion, & Patterson, 2003; Immordino-Yang, 2008, 2009, 2011a,b; Immordino-Yang & Damasio, 2007; Immordino-Yang & Faeth, 2009; Immordino-Yang & Singh, 2013; Lewis, 2000; Moors, 2007; Roediger, Gallo, & Geraci, 2002; Spencer & Schöner, 2003; Storebeck, Robinson, & McCourt, 2006; Thelen & Smith, 1998; van Geert & Steenbeek, 2008). Social and affective neuroscience studies reveal that emotion guides the very first stages of cognition and knowledge acquisition; the brain develops a nonconscious emotional reaction to information, which acts as a rudder steering the individual's future recall of knowledge. Affective processes not only control cognitive processes but they adjust and modify them as well (Storebeck & Clore, 2007). Halgren (1992) and Ghashghaedi and Barbas (2002) argued that cognition and emotion are bidirectional, complimentary, and so highly intertwined that attempting to separate them is unrealistic. Neuroscience studies have discovered that physical body sensations reveal the unconscious force driving decision making processes: emotion unconsciously guides the entire learning process in the early stages of knowledge acquisition. This "emotional learning" shapes all future behavior and decision-making processes (Bechara & Damasio, 1997; Immordino-Yang & Damasio, 2007; Immordino-Yang & Faeth, 2009). Emotions are developed from the blending of cognitive and affective mental processes. Emotional learning also guides behavioral conation as the individual attaches cognitive knowledge to his unconscious emotional thought and the emotional reactions of others to his behavioral choices (Immordino-Yang & Faeth, 2009; Moors, 2007; Storebeck & Clore, 2007). In this way, the humanistic classroom environment and social interaction with teachers and peers are crucial to the first two unconscious stages of learning and knowledge acquisition. "Effective learning does not involve removing emotion; rather, it involves skillfully cultivating an emotional state that is relevant and informative to the task at hand" (Immordino-Yang & Faeth, 2009, p. 74). This positive affective environment, in turn, guides social and behavioral action and decision-making processes and produces feelings of efficacy and generative, constructive, and broad cognitive processing. (Erez & Isen, 2002; Fiedler, 2001; Frederickson & Branigan, 2005). Emotional learning and social learning will then be incorporated and attached to the cognitive processes of the learner's knowledge acquisition. Without emotion or with a negative emotional experience, learning is therefore impaired or inhibited (Greene, Sommerville, Nystrom, Darley, & Cohen, 2001; Haidt, 2001; Immordino-Yang, 2008, 2009; Storebeck & Clore, 2005, 2007, 2008). Several cognitive psychology and cognitive performance experiments have established that affective states regulate a wide array of cognitive processes from implicit learning and implicit attitude associations to attention and perception (DeSteno, Dasguta, Bartlett, & Cajdric, 2004; Duncan & Barrett, 2007; Huntsinger, Sinclair, Dunn, & Clore, 2006; Storebeck & Clore, 2007)

By studying brain-damaged patients, neuroscientists discovered that a meaningful and relevant emotional connection must be established to the information in order for cognition to guide actions and behaviors. Although the

patients show no cognitive impairment, socio-affective reasoning has no relevance to them and does not guide their behaviors or actions. This inability to use affective reasoning results in severely negative consequences in their judgment and decision-making abilities (Damasio, 1994, 2005; Immordino-Yang & Damasio, 2007; Immordino-Yang & Faeth, 2009). Additionally, studies have found the inverse to be true; effective intrapersonal and interpersonal functioning correlates with expertise in utilizing affective feedback (Mayer, Salovey, & Caruso, 2004).

## **Discussion**

### *Comprehensive Socio-Affective Curricular Approach*

Various frameworks and models purporting to encourage the different social-affective branches of child development have been debated in curriculum development; however, research is inconclusive on the effectiveness of these various programs. However, recent studies and theories in neuroscience and neuropsychology have established the symbiotic nature of these components of the human brain, the processes of the brain are interdependent and intertwined and cannot be separated. This research presents a plausible explanation why previous curricula encouraging development in only one branch (only “cognitive” or only “behavioral”) have been inconclusive in stimulating growth, because psychological development must be stimulated in all areas simultaneously. Meta-analysis of research studies supports the argument that curricula must deliberately encourage psychological development in all socio-affective domains simultaneously in order to encourage socio-affective developmental growth (McKenzie 2005; Schlaefli, Rest & Thoma, 1985).

Humanistic and affective theorists and proponents of “care” moral development argue that trust, with the affective connections of care, is the foundation for prosocial behavior (Battistich, Solomon, Watson, & Schaps, 1997). According to ethical competence theory, moral character is comprised of a set of skills that can be improved and refined towards higher levels of moral judgment, sensitivity, and action (Narvaez, Endicott, & Bock, 2001). This incorporates the aspects of cognitive-developmental, affective, and behavioral development. In essence, it takes a cognitive approach (reasoning according to student’s level of understanding) and empathy and care-based social reinforcement and modeling in order to encourage moral development internalization. In addition, service learning provides the rationale for behavioral growth and encourages individuals to adopt moral standards because they are immediately applicable to their lives (Berk, 2009). (1) Cognitive-developmental moral education is concerned with developing the intellectual tools for moral reasoning and judgment, (2) the humanistic model focuses on the role of the quality and care of relationships, and (3) service-learning focuses on real-world experiences in order to encourage moral behavior development. Although these various schools of thought have been

classified and researched as mutually exclusive, recent integrative frameworks of moral-social-affective education incorporate traditional moral reasoning discussions and literature with service-learning (empathy in action) in humanistic environments for a comprehensive socio-affective paradigm (Holter & Narvaez, 2009).

Based on recent revelations in social and affective neuroscience research, curricula should nurture an emotional connection to the knowledge through student selection (problem-based learning, constructivism, self-directed learning), bibliotherapy with cognitive disequilibrium dilemma discussions (KMDD method, Socratic circles), and community connections (service learning, mentors, volunteerism). However, for any of these curricular aspects to be effective, they must be interwoven into a humanistic classroom (mutual respect, emotional intelligence, mindset of security, mindfulness and meditation).

## **Conclusions**

Educators and parents have become more aware of the need to nurture the moral, social, and emotional development of gifted adolescents; however, there is no conclusive evidence that gifted individuals cope or adjust any differently (better or worse) than their chronological peers. Despite the arguments of a strong correlation (positive or negative) between socio-affective reasoning and intellectual giftedness, the only basis for the numerous theories and viewpoints lies in quantitative assessments. However, there is no calculated evidence of a correlation between giftedness and mature socio-affective behavior (Abroms, 1985; Freeman, 2008, 2010).

A wide range of nonintellectual characteristics has often been the subject of much debate in the definitions of giftedness and curricula models of gifted education. Literature in the field of gifted education is at odds in regards to psychosocial development and extra-cognitive issues for gifted adolescents. Research has been inconsistent on the issues of emotional intelligence and social ability and on the relationship between intellectual giftedness and moral development. As a result of the conflicting views and contradictory research, it seems pertinent that additional research be conducted in order for data to provide a deeper understanding of gifted socio-affective psychological development and possible school environment affects. Further research should incorporate improved methodology such as sampling from diverse cultures and socio-economic levels, multiple instruments measuring all psychological socio-affective domains concurrently, and longitudinal studies of educational fit and environment.

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