

## The Transition from Childhood Giftedness to Adult Creative Productiveness: *Psychological Characteristics and Social Supports*

Paula Olszewski-Kubilius

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*The purpose of this article is to examine the sources of differences in motivation and other psychological characteristics, specifically the role of childhood environments, in engendering or promoting adult creative productive achievement. A model is presented in which it is proposed that the environmental conditions of creative producers result in responses that include the development of several key personality characteristics or coping strategies such as a preference for time alone, an ability to cope with high levels of anxiety or tension, freedom from conventionality, and the use of intellectual activities to fulfill emotional needs. The conditions in the environment often result from some kind of stress within the family, which is in part, a function of characteristics of the family, the broader context surrounding the family, and characteristics of the child.*

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Paula Olszewski-Kubilius is Director of the Center for Talent Development Northwestern University, Evanston, Illinois and a member of the Editorial Advisory Board of the *Roeper Review*.

***What are the psychological factors that affect the fruition of childhood talent and ability into adult creative, productive achievement? What motivates individuals to achieve at very high levels or to be creative? What conditions within the family or larger environment engender motivation and create the psychological characteristics needed for eminent levels of achievement and creative productivity?***

Many prominent researchers in the field of talent development agree that attributes of the individual, specifically personality and motivation, are the most important elements of creative achievement and differentiate achievers and producers from other individuals. Csikszentmihalyi (1985) writes "The unifying similarity among geniuses and innovators is not cognitive or affective but motivational. What is common among them is the unwillingness or inability to strive for goals everyone else accepts—their refusal to live by a presented life theme (p. 114)." Winner (1996) writes, "After a certain point, levels of ability play a less important

role than personality and motivational factors." (p. 283). Ochse (1993) says, "It is consistently recognized that the creators most salient characteristic is persistent motivation." (p. 133).

Currently, there is a gap between researchers who study childhood giftedness and researchers who study adult giftedness. Those concerned with gifted children emphasize general intellectual ability (IQ), above grade-level scholastic achievement, precocity of achievements with respect to age peers, identification through testing, and schooling as the main context for talent development. In contrast, those who study adult giftedness focus on domain specific abilities, the creativity of achievements or products and their contribution to the field, and an individual's standing or stature as judged by other experts in the field. A major difference between child and adult giftedness is the emphasis on the *field*, defined as the individuals and institutions that render judgements about work in a domain (Gardner, 1994). A measure of the quality of adult achievements is the critical acclaim they receive by other experts, the extent to which they break new ground or move the field forward. Gifted children do not often typically create new knowledge, they **discover** what is already known — earlier and faster than most other children.

Research has shown that most children identified as gifted on the basis of traditional and typically used measures of intellectual ability do not become eminent, creative producers (Terman, 1925; Subotnik & Steiner, 1994). This is not because of lack of intellectual potential nor even opportunity; most of these children come from upper middle class homes with family resources to support their talent development. Why is there a disconnection or lack of continuity between childhood giftedness and adult creative productive giftedness? The answer may lie in the environmental conditions that surround the talented individual.

Albert (1978) has identified significant differences in the profiles of children who are scholastic achievers versus those judged to be creative. Scholastic achievers come from cohesive, child-centered families in which strong bonds

exist between parent and child. These families tended to employ conventional socialization practices with their children. Their family environments engendered the development of motivation to achieve in typical ways such as in school. Creative achievers, in contrast, came from families where there were tense family relationships, unconventional parenting and socialization practices in use, and a greater likelihood of parental dysfunction or parental loss. According to Albert, these family conditions engendered a motivation to obtain power, which resulted in creativity. Thus, family contexts can be differentially supportive of the development of creative talent and family dynamics yield different kinds of motivations and outcomes for children.

This article examines the sources of differences in motivation and other psychological characteristics and more specifically the role of childhood environmental conditions in creating or promoting adult creative productive achievement.

Figure 1 is a model of the variables that affect the development of key characteristics of adult creative producers. The **Characteristics** were identified from the writings of major researchers about adult creativity.

It is proposed and represented in the model that conditions within the environments of creative producers result in responses that include the development of key personality characteristics or coping strategies. The conditions in the environment result from some kind of stress within the family, which is in part, a function of characteristics of the family, the broader context surrounding the family, and characteristics of the child. In this article research related to each aspect of the model will be reviewed.

### **What is Meant by Creative?**

Individuals focussed on in this article are those who would be characterized as creative and eminent. These are individuals who are recognized by other experts in the field as doing work that alters the field and leaves it different

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Model of Influences on the Development of Creativity				
<b>CONTEXT</b>	<b>Family Characteristics</b> Family Status (e.g., SES, marginality) Family Generational Influences (Domain Preference & Resources)	<b>Child Characteristics</b> Birth Position Physical Disabilities Asynchronies in Child Gender		
<b>CONDITIONS</b>	<b>Stress</b> (parental loss, harsh parenting, parental dysfunction, neglect, abuse) Threat to Security, Feeling Out-of-Control Isolation, Rejection, Feeling Different Reduced Affiliation and Identification with Parents Disruptions in Socialization, Unconventional Socialization Need for Refuge Emotional Disequilibrium			
<b>CHARACTERISTICS</b>	<b>Tolerance/Preference</b> -rich fantasy life -voracious reading -skill development -coping strategies for isolation	<b>Intellectual Activities as Fulfilling Emotional Need</b> -palliative avoidance response -compensatory behavior: seeking to relieve loss, obtain love and admiration -need to find controllable situations, optimal situations -discovered life theme/ transformational coping -express childhood traumas	<b>Ability to Cope with Tension/Marginality</b> -tension reduction as soothing -ability to take risks -search for asynchronies -turn synchrony into asynchrony or "up the ante"	<b>Freedom from Conventionality</b> -opportunity to explore fields -desire to stir up <i>status quo</i> -ability to straddle several fields -freedom to form own identity, choose unconventional occupations -more androgynous profile

Figure 1

than it was before their contribution such as a Picasso, Shakespeare, or Piaget.

### Family Characteristics

The family has a profound effect on the individual. It has its own unique characteristics and dynamics, which include the composition of members, individual members' histories and values, and members' patterns of interaction and communication. The family is the filter through which the child experiences outside events and conditions, and it can serve either as an intensifier or buffer to stress.

An important characteristic of families is family status, which consists of two attributes, socioeconomic status (SES) and marginality. SES determines the resources, specifically disposable resources such as money and parental time, that are available within the family for talent development (Albert, 1994, Olszewski-Kubilius, Kulieke & Buescher, 1987); more resources typically allow for greater support for talent development.

**M**arginality refers to the degree to which the family is dissimilar or isolated from the social context in which it resides or is located (Albert, 1994). Families may be marginal because of their race or ethnicity, SES, or religion. Marginality can have the effect of freeing families from a pre-

occupation with status and convention (i.e. socially sanctioned ways of doing things). Families that are both low in socio-economic status and marginal may regard the traditional routes to success and achievement, including formal education, as less open to them or not yielding the same rewards as for more advantaged, mainstream individuals (Albert, 1994). Often, these families will push their children to capitalize on early talent such as in sports or entertainment a la Michael Jackson (Albert), or they may eschew societal conventions as a way of protecting or participating in a subculture with which they identify and from which they receive social support (Ogbu, 1992).

Family history and stability are other aspects of families that play an important role in the talent development process. Family influences on talent development can come from preceding generations (Albert, 1994) in two significant ways. One is in domain preference (e.g. the tradition of politics and the law within the Kennedy family). The second is in the **accumulation** of educational (e.g. knowledge about higher education, experience with higher education), social (e.g. social standing and social connections), and financial resources (Albert). The possibilities that a family will survive and thrive increase with the number of stable generations. According to Albert (1994), families with at least

three stable generations can garner a great deal of skill, experience, and knowledge, including hope and problem solving skills, to support the development of a talented child.

**F**amily history is also expressed in values (e.g. importance of education), beliefs (e.g. one is in control of one's destiny), expectations (e.g. high levels of achievement), and attitudes (e.g. success is attainable) (Olszewski-Kubilius et al, 1987). Albert (1994) proposes that there are two different kind of processes by which families transfer these to children—intergenerational and transgenerational processes.

Intergenerational transfer processes operate horizontally, in the present to near future, and occur in the normal interactions between primary and extended family members (Albert, 1994). The nature of these interactions is greatly influenced by the family's present circumstances. Families who are primarily intergenerationally oriented will be focussed on immediate family demands and needs, and their socialization practices will tend to be conventional and driven by family's current status rather than past history (Albert). Intergenerationally oriented families are more likely to steer children to traditional paths of achievement and towards the acquisition of traditional status markers, such as high status job or professions. Families who are less established and

have fewer generations are almost always primarily intergenerationally oriented (Albert).

**T**ransgenerational family transfers operate from a family's past into the future (Albert, 1994). They are vertical and longitudinal. While the origins of these messages can be vague, they can also be very powerful and communicate family norms, past levels of achievements, and family traditions such as fields of achievement. Families that are transgenerationally oriented will tend to be freer from immediate pressures of day to day life and their socialization of children can be less conventional (Albert). These families will be more likely and able to support children toward unconventional paths and will be less concerned with the accumulation of social status via achievement. Transgenerationally oriented families are more likely to foster the development of creativity (Albert).

Csikszentmihalyi and Beattie (1979) also emphasize the importance of the messages that families give to children. They assert that families have systems of cognitive coding or patterns of explanations for events or circumstances. Childhood events such as loss of a parent, poverty, and marginality are interpreted by parents for children, and these interpretations have significance for the child's choices. For example, two families living in poverty may give very different messages about how their children should avoid that situation for themselves, e.g. save your money versus get an education to prepare for a profession. The cognitive structures of families act as a filter to childhood experiences, particularly stresses, and affect children's responses.

In summary, family characteristics such as socio-economic status and marginality influence the resources that families can bring to bear on the development of a child's talent and the degree to which families buy into traditional achievement paths and conventional status markers. Family influences cut across generations and affect domain preferences. The predominant way in which the family communicates family values, traditions, expectations, etc. also affects the socialization of children and the development of creativity.

### Characteristics of the Child

Characteristics of the child are important in determining the context for talent development within the home. One of the most salient characteristics is

birth order. There is ample support within the literature that a disproportionate number of individuals who achieve eminence or have high IQ's are first borns (Olszewski-Kubilius et al, 1987). One hypothesis about why that might be the case is that first borns experience a more intellectually stimulating environment because it is predominated by adults (Pfouts, 1980). Another proposed explanation is that families have psychological niches for children including the *smart one*, the *high achiever*, or the *musical child*, and birth order determines a particular child's niche (Olszewski-Kubilius et al, 1987).

Albert (1980) refers to birth position as a psychological *organizer* which determines the nature of family expectations, resource allocation, and status. Albert (1994, 1980) differentiates between *favored* children who are usually the oldest or youngest in the family and *special children* who are exceptional because of certain circumstances, e.g. the first born child after the loss of a child. Children with special or favored birth orders may be the object of parental pressures or pressures to achieve at high levels and may be earmarked to continue in the family profession. Birth order, therefore, is not a superficial characteristic but one that can galvanize families to behave in certain ways and commit family resources to a particular child (Olszewski-Kubilius et al, 1987).

Gender is another characteristic that significantly affects whether an individual's talent is developed. Gender affects parental beliefs about the domains in which children are gifted, the socialization of children, and the opportunities provided for talent development (Arnold, Noble & Subotnik, 1996). Gender also interacts with birth order. Although females have not historically been the object of intense achievement pressures from families (compared to males), they can be in the absence of talented male children (Albert, 1980).

**P**hysical disabilities can create a set of dynamics within the family and for the individual, which can facilitate or inhibit talent development. Physical handicaps can cause a child to be isolated from and rejected by children and even family members resulting in a lack of attention to the talent area, or they may cause the family to be overprotective thereby limiting opportunities for exploration or independent activity. Alternatively, physical isolation may result in a child pursuing a talent or interest area intensely and lead to a pref-

erence or at least high tolerance for solitude with further opportunities for the acquisition of skills and knowledge (Ochse, 1993). Isolation may help a child to turn inward toward fantasy for problem solving and coping, which can facilitate creativity (Ochse). Isolation or rejection frees children psychologically from their parents, which Albert (1994) purports is conducive to the formation of a unique (i.e. different from parents) identity, a critical component of the creative personality.

**C**hildren who experience rejection as a result of a physical disability or other significant differences may feel motivated to achieve at a high level to gain attention and admiration, to prove that they are loveable, or to gain acceptance (Ochse, 1993). Asynchronies within children, including great intellectual ability combined with limited physical skills, or tremendous spatial reasoning ability and limited verbal ability, can cause learning difficulties and/or may engender feelings of differentness which lead to isolation and rejection and similar sequelae as described above (Gardner, 1994).

In summary, characteristics of children affect the environmental conditions within the home. They can create additional stress, alter family interaction patterns, and influence expectations regarding achievement. They can also affect the allocation of family resources. They are, therefore, important components to the talent development process, affecting the environment and affected by it.

### Stress

Reports of the childhoods of eminent individuals reveal a variety of stressful circumstances including: parental loss (which was three times more likely for this group of individuals than for the population at large and equal to that of juvenile delinquents, Albert, 1983); stern discipline; rejection by parents or other children; overprotection; loneliness; loss of a cherished sibling; insecurity due to poverty, parental neglect, or dysfunction; physical disabilities or deformities (Ochse, 1993), and parental conflict (Koestner, Walker, and Fichman, 1999). How does stress in childhood affect the development of creativity?

Stressful conditions in childhood are experienced as threatening by children, indeed threatening their very survival and existence, if parents are unable to care for or protect them. According to Horney (cited in Ochse, 1993) children whose security is threatened by some

disruption in the parental relationship feel a great deal of anxiety. A child may react in a variety of ways to that anxiety: by turning towards people and seeking their love and affection; turning away from people, withdrawing, seeking self-sufficiency and independence; or by turning against people and seeking power, prestige, and domination. Creative producers will try to fulfill these motives acquired in childhood—for love, independence, or domination—through their creative work in adulthood.

Children who experience enduring stress may often feel *out of control* and react by seeking more controllable situations, including intellectual ones in which the challenges are more appropriately matched to their capabilities and skills. Retreating to solitary intellectual activities may be preferable to children who are living in situations that involve stressful interpersonal interactions with parents or other family members (Ochse, 1993).

Adverse conditions in childhood may disrupt the normal socialization processes that children typically experience (Albert, 1994). Parents may spend significantly less time teaching children about social conventions, rules of conduct, or even involving them in traditional schooling. Children may also experience more unconventional socialization towards, for example, early self-sufficiency and independent action and thought. However, Simonton (1992) notes that, "Disruptions to socialization will not do a child any good unless the freedom gained is maximally exploited—the time and energy that would have been spent on learning societal norms can be diverted to the acquisition of creative potential (p. 286)."

Parental loss or dysfunction may loosen bonds and reduce affiliations between parent and child and disrupt the normal identification of the child with the parent. This may result in a cognitive and/or affective freeing that gives the child greater latitude to follow his or her own destiny, create an identity different from the parent's, and pursue novel and unconventional paths (Albert 1994, Winner, 1996). Feeling different in childhood may generate a willingness or at least a tolerance for being different in adulthood (Albert), an important ingredient to putting oneself and one's work forward and to taking intellectual risks.

Parental loss or disillusionment or some other childhood tragedy may result in a life theme, where the event or circumstances are reinterpreted as an exis-

tential problem which the individual is compelled to solve, usually through lifelong dedication to a field of work, profession, or endeavor related to the tragedy (Csikszentmihalyi, 1990). Many creative producers eventually pursue fields that are in some way connected to their childhood experiences.

Gardner (1994) asserts that the disruptive circumstances that exist within the childhoods of most creative individuals teach them to develop a taste for a certain level of tension and to seek situations that will provide it. They thrive on tension and asynchrony and experience anxiety when a certain amount of it is not present in their environment or within themselves. They create tension and asynchrony by taking risks and being unconventional in their careers and even in their personal lives.

Piirto (1992) asserts that childhood traumas provide the grist of novels, poetry, and artistic expressions. Through some creative outlet, the individual finds expression for intense emotions, solace, and relief. Getting comfort is a significant component of the persistent drive to achieve.

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Stress, within the childhoods of talented individuals, does not always result in creative productive work in adulthood. Therival (1999a) suggests that different types of childhood *misfortunes* result in different outcomes. For example, early parental death, parental illness, or a difficult parental relationship, are misfortunes that create challenges for a child, but do not elicit antagonism. Misfortunes which do elicit antagonism, such as parental or teacher domination or abuse, can result in rejection of adults and authority figures in general. According to Therival, misfortunes that elicit antagonism typically result in creativity funneled into lifestyle and mannerisms, but not substantive work. Such individuals may be creative (or eccentric), but not productive.

Rhodes (1997) makes the distinction between D-Creativity and B-Creativity. D-Creativity (creativity spawned

from deficiencies in acceptance, love and respect) may initially exist, borne out of childhood environmental circumstances, but can turn into B-Creativity (creativity resulting from intrinsic motivation) as the individual's emotional needs are met, healing occurs, and skill in "control of both the environment and the symbol systems used for expression" (p. 253) within the talent area are acquired.

In summary, stress during childhood appears to be a typical pattern for adult creative producers. Stressful circumstances create psychological conditions and elicit responses which support the development of creativity.

### **Characteristics of Creative Producers**

It is a premise of this article that conditions within the environment of the talented individual, particularly the childhood, family environment, serve to elicit particular kinds of responses and/or create preferences and personality characteristics that are conducive to creative achievement. Specifically, these

responses and characteristics include a preference for time alone, an ability to cope with high levels of tension and marginality, freedom from conventionality, and the use of intellectual or creative activities to fulfill emotional needs.

*A preference for time alone.* As a result of circumstances within their lives, many creative producers found themselves spending a great deal of time alone as children. Whatever the reasons for the isolation, they often developed a **preference** for time alone (Ochse, 1993). "Aloneness is not merely the effect of circumstances in the lives of creators. It is often part of their personality for the creator is often apart and withdrawn even in the presence of others and makes a deliberate attempt to seek solitude" (Ochse, p. 169).

Time alone was critical to creative producers' development. It gave them an opportunity to read, practice, or acquire

skills relevant to the talent area (Winner, 1996). Voracious reading in childhood is a hallmark of creative productive adults and necessary to build the rich network of knowledge from which their creative contributions emerge (Simonton, 1994).

The development of a rich fantasy life was often a result of lack of others to play with and exceptional imaginal capacities (McGurdy, as cited in Albert, 1983), but it lead to further use of imagery and visualization techniques for solving complex intellectual problems. Fantasy was also used as a coping strategy to deal with emotional trauma and psychological pain. Through fantasy, a child could control the circumstances in his or her life that were out of control, invent a caring family, or emerge victorious in a situation (Ochse, 1993).

According to Csikszentmihalyi, Rathunde, and Whalen (1993), a major obstacle to talent development during adolescence is an inability to spend time alone. Those teens that were able to persist in their talent area had developed strategies for handling the anxiety, particularly acute at adolescence, that often accompanies being alone.

**Ability to cope with tension and marginality.** A characteristic of creative producers is an ability to deal with a quality variously described as marginality (Simonton 1994; Gardner, 1994), asynchrony (Gardner, 1994)), risk taking (Gardner (1994, Simonton, 1992), or discordance (Feldman, 1994). Gardner asserts that creative individuals are constitutionally dissatisfied with the status quo. They are more comfortable with states of tension that arise from the following kinds of situations:

- marginality with respect to social groups as a result of one's race, religion, socio-economic status, or work;
- asynchrony that exists because of disparities between their abilities in one area compared to another such as the case where a handicap co-exists with an extreme level of talent;
- discordances that exist because of less than optimal conditions within the environment for talent development to occur, e.g. the lack of supportive conditions within the family;
- marginality with respect to the field because one is working between two seemingly disparate fields or on the cutting edge of a field; and
- risk taking which occurs when novel, ground breaking work is being pursued or one's work is put forward for critique and review by experts in the field.

Ochse (1993) postulates that creative individuals are better able to cope with the high levels of anxiety and tension which the situations above would produce compared to others. These creative individuals prefer neither a state of tension nor a tensionless state according to Ochse, but seek the pleasure that results from the reduction of tension or the anticipated reduction of tension. To a creative or intellectually talented person, challenging tasks promise greater reduction of tension and more pleasure than simpler tasks. With the growth of competence in a field, an individual would need more and more challenging tasks or projects in order to experience the same satisfying tension reduction and hence, acquires higher levels of competence and expertise.

Gardner (1994) goes further and suggests that a high level of tension and anxiety is a preferable state for creative individuals. They "turn comfortable synchrony into uncomfortable asynchrony" and/or "up the ante" when there is too little marginality in their lives. For example, if an artist's work is finally receiving critical acclaim and acceptance by experts in the domain, the artist will go in a new direction, to increase his or her marginality to a more comfortable level.

There are risks to too much marginality or asynchrony. A personal risk may be that of disintegration or even emotional breakdown, but **intellectual** marginality can also occur (Simonton, 1994). Some degree of marginality is good; too little and the individual fails to see beyond the discipline, too much and the individual cannot exert influence over others in the field (Simonton).

**Freedom from conventionality.** Creative producers show a disinterest in societal conventions. They feel freer to follow their own inner voice, to disregard traditional paths, and to enter atypical occupations. Individuals who are less concerned with traditional paths to achievement may be more open to exploring and connecting diverse fields in their field. Such individuals are particularly *mistake tolerant* and may desire to be different and stir up the status quo.

Being less concerned with societal conventions is often a result of family background (Albert, 1994). Families with considerable resources will be less concerned about socializing children toward conventional, high paying, achievement paths and more able to support non-traditional interests and careers financially both in childhood and adulthood. Alternatively,

families that have few financial resources may eschew traditional achievement paths in lieu of ones that pay off quicker and more substantially. (Albert, 1994). Though very different, both situations can lead to children choosing non-traditional occupations.

Any childhood event that disrupts normal socialization processes (e.g. separates a child from parents such as death, divorce) because it reduces the affectionate bonds between parent and child or affects parents' abilities to teach children about society's rules and codes (e.g. parental dysfunction) can produce individuals less schooled in and less accepting of societal conventions (Albert, 1994; 1980). These individuals simply have less direct teaching from adults in these conventions or cannot incorporate them into their own personalities because they do not identify with or have affection for the adults conveying them, even if they are their parents. As a result these individuals are more likely to reject norms, the accepted answers, and more likely to want to go their own way and be extremely independent in their thinking. A desire to stir up the status quo within a domain, for example, may be a result of both a desire to increase tension and a lack of commitment or reverence for the existing structures and traditions of a field. It may also be a rebellious reaction to stern, authoritarian, and controlling parents in childhood (Ochse, 1993). Individuals who are less accepting of society's conventions may be more androgynous and open to fields not considered typical for their gender (Ochse).

Therival (1999a) asserts that when parents are unable to teach children (due to early death, mental illness, etc.) about the routines, traditions, or taboos of society, what he calls *scripts*, the individual invents his or her own. Having to build your own scripts results in different points of view and creative insights. "In this optic, creative insights come from the clash of quality individual scripts with the scripts of the majority, from a constructive resolution of both sets of scripts that are "rotated" around a key common point or set of points...(Therival, p.49).

**Intellectual activities as fulfilling emotional needs.** A characteristic of creative producers is that their intellectual and creative activities fulfill a basic emotional need, which is often why they are so highly motivated and driven to achieve. The emotional need stems from events and stresses experienced in child-

hood. What is critical here is the individual's reaction to the stressful circumstances. They have engendered responses that involve or support talent development activities. Specifically, the stressful circumstances result in the following types of responses.

- Palliative avoidance response (Ochse, 1993) in which the individual seeks refuge in the talent domain to avoid the stressful circumstances within their life. Engagement in the talent development activities is thus perceived as emotionally soothing.
- Compensatory behavior (Simonton, 1994). In this response the individual seeks to make up for loss or rejection experienced in childhood through achievements that bring them respect or attention from others or power over others. Ochse (1994) writes,  
*If naturally unattractive, they must be urged to produce something of beauty as an extension of themselves—to attract love. In other words, creating beauty not only serves the purpose of reducing intellectual tensions but also arousing feelings of attraction (sexual tensions and promise of tension reduction) in others (p. 157).*
- A need to find controllable and/or optimal situations (Ochse, 1994) such as those provided by engagement in the talent field.
- Use your talent to express childhood traumas (Piiro, 1992). By expressing and re-expressing these themes, solace and comfort, and new understandings and solutions to problems are obtained.
- Transformational coping or using one's work or career to "right" a social injustice experienced in childhood.

To illustrate transformational coping, Csikszentmihalyi *et al* (1979) give the example of an individual who, as a child, was hit by a car while riding a bike. The driver of the car was a female physician who convinced the child's immigrant parents not to go to the police. The family, of very limited financial means, ended up paying for the hospital expenses and did not receive any compensation in return. The individual's interpretation of the event is that the absence of legal help for individuals of limited means and with little knowledge of the laws and their rights, resulted in a dire situation for the family. The individual eventually earned a law degree and throughout his life's work has consistently upheld the rights of minority groups.

There are three main components to transformational coping, an unconscious self-assurance or belief that one's destiny is in one's hands and that your own resources will be sufficient to cope with any situation, a focus on the world outside of oneself so that frustrations and one's own desires have less of a chance of being disruptive, and an ability to find new solutions by identifying or removing obstacles or setting new goals. While the personal tragedies of individuals get translated into existential problems or symbolic forms, Csikszentmihalyi *et al* (1979) assert that typically

would support the development of well-adjusted, competent individuals who are neither necessarily creative nor highly talented. According to Csikszentmihalyi, inborn talent or the desire to overcome personal tragedy and disability might more readily explain the development of eminent individuals who do not have supportive families. It may be that the development of very high levels of talent and eminence require the motivation and characteristics born from childhood tragedy and unmet and compelling psychological needs—other levels of talent result from a more balanced blend of

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and eventually, the individual's career becomes quite separate from the original problem. The individual becomes engaged in the symbolic medium of the profession and its challenges and questions continue to engage and motivate the individual's creative work.

#### *Why Do Some Individuals Turn to Achievement and Creative Productivity Rather Than Delinquency, or Mental Illness?*

Stress or difficult circumstances seem to be a major ingredient of the process of producing a creative individual. Simonton (1994) goes so far as to suggest that if you want to produce a creative individual, you must not give them too healthy and normal of a childhood. The question is, are childhood stress and trauma **necessary** ingredients.

Csikszentmihalyi (1993) would suggest that they are not. He asserts that a **balance** of support and tension within the family is conducive to high levels of talent development. Previous studies have lacked a conceptual classification for balanced families and have tended to focus on extreme types, particularly very dysfunctional families. Balanced families provide contexts that are integrated, i.e. family members are connected and supportive of one another, yet also differentiated, i.e. there were high expectations from parents that individual children would develop their talents. An over-emphasis on differentiation would support the development of eminent levels of talent. A primacy of integration

tension and support. We have not explored the existence of different routes or paths to the same end.

Therival (1999a) also believes that stress or tragedy is not an essential dimension of creative productivity. He offers a model which includes the following components, genetic endowment (G), parental or other *confidence building* assistances (A), and misfortunes (M). According to Therival, creativity can develop in individuals who experience great misfortunes, as long as there are also great assistances present. He distinguishes between creators who were *dedicated* (had high levels of genetic endowment, many assistances in youth and no major misfortunes) and creators who are *challenged* (high genetic endowment, some assistances and some misfortunes). Both produce creative work, but *challenged* personalities are more overtly driven to prove themselves and to receive recognition (Therival, 1999b).

Why do some children who experience similar traumatic events turn to crime and delinquency while others to achievement? What distinguishes transformational copers and those who acquire a life theme from those who do not? One answer may lie in constitutional factors. It may be that some individuals are physically and psychologically able to withstand more stress than are others. A second answer may be that succumbing to tragedy rather than rising above it may be a

function of the other supports or assistances, to use Therival's term, that exist within the individual's life. This may affect the degree of stress an event causes for a particular individual. When there are so many negatives and so few supports available within an individual's environment, a major tragedy can push the individual over the edge. When there are some strong supportive elements in place, such as an extended family or sibling support, the impact of the tragedy may be disturbing, not devastating, and highly motivating.

There is some support for this idea within the research literature. Although families of creative individuals are characterized as having more disharmony and tension between family members, they also had well ordered, structured, and organized homes which may have acted as a partial buffer to stress (Olszewski-Kubilius et al, 1987). Despite neglect, there may have been role models in the form of family friends, or support from siblings. If one parent was rejected and abusive, another might have been devoted. Even in extreme poverty, parents stressed the importance of having goals and introduced children to books and other educational resources (Csikszentmihalyi et al, 1979).

Another question worthy of research is what are the ramifications of turning to intellectual activities or pursuits for emotional support, fulfillment, or healing? Can it lead to abnormal relationships, an inability to handle relationships successfully, or a lack of desire for relationships when needs are being met via other means?

Additionally, what is the emotional price of becoming comfortable with tension and marginality and needing to a certain high level within one's life in order to feel comfortably challenged? Is the desire for tension and marginality a psychological addiction akin to a physical addiction? What are its potentially negative consequences beyond exhaustion and breakdown, and how does it interact with a person's basic constitution and environmental supports?

It may seem difficult to reconcile the co-existence of some of the characteristics presented in the model within a single individual. For example, how can an individual both reject societal traditions and conventions yet have a strong need to have the approval and acceptance of one's work from others? The model is meant to be flexible. Emphasis on different components can yield dif-

ferent outcomes. Emphasis is a matter of degree—conditions in childhood may foster a stronger orientation towards one of the four characteristics over the others but all are present at some minimal level in creative producers. For example, an emphasis within an individual's life on conditions that foster a high ability to cope with tension and marginality but do not create the same level of motivation to fulfill emotional needs through intellectual activities may produce individuals who are able to take risks and produce novel, path breaking work, but are erratic, inconsistent, and lack focus. Similarly, childhood conditions that fostered freedom from conventionality to a greater extent than the other characteristics might result in individuals who produce novel work but who are unconcerned with its acceptance by others because critical acclaim or attention is not as central to their personality structure nor does it fulfill emotional needs. Finally, there are individuals for whom creative production and intellectual pursuits fulfill emotional needs, but their childhood environments did not support a high ability to cope with tension or marginality nor freedom from conventionality. These individuals are high achievers by anyone's definition, but not necessarily creative achievers, unable to take the big risks, intellectually or socially, or bear the criticism, offered by their colleagues.

Researchers need to continue to explore the essential question of why some individuals become so highly successful and produce wonderfully creative works while others with similar levels of talent do not. The conditions of childhood environments produce psychological issues, responses, and personality characteristics and preferences from individuals. Understanding their role in the development of talent is important to being able to promote optimal development for all children with talent.

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## Author Notes

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