



Coherence of character and temperament drives personality change toward well being in person-centered therapy

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Purpose of review

People and communities around the world face many crises, including increasing burdens from disease, psychopathology, burn-out, social distrust, and acts of hate and terrorism. Personality disorder is arguably both a root cause and a consequence of these problems, creating a vicious cycle of suffering caused by fears, immoderate desires, and social distrust that are inconsistent with rational goals and prosocial values. Fortunately, recent advances in understanding the biopsychosocial basis and dynamics of development in personality and its disorders offer insights to address these problems in effective person-centered ways.

Recent findings

Fundamental advances have been made recently in the understanding of the psychobiology and sociology of personality in relationship to health, and in basic mechanisms of personality change as a complex process of learning and memory. Promotion of self-awareness and intentional self-control releases a strong tendency for people to seek coherence of their emotions and habits with what gives their life meaning and value.

Summary

People have a strong drive to cultivate personalities in which their emotions and habits are reliably in accord with reasonable goals and prosocial values. Person-centered therapeutics provide practical ways to promote a virtuous cycle of increasing well being for individuals and their communities and habitats.

Keywords

biopsychosocial model, character, temperament, therapeutic alliance, well being

INTRODUCTION

Individual differences in personality are strongly predictive of all aspects of health, including the physical, mental, and social components of well being [1,2]. People and communities around the world face many crises, including increasing burdens from disease, psychopathology, burn-out, social distrust, and acts of hate and terrorism [3]. These crises call into question the sustainability of contemporary human ways of living. Personality disorder is arguably both a root cause and a consequence of these problems, creating a vicious cycle of suffering [4]. This vicious cycle appears to be driven by fears, immoderate desires, and social distrust that are discordant with rational goals and prosocial values [3,4,5⁶,6–8].

Self-awareness and intentional self-control provide *Homo sapiens* (literally, wise man) with the capacity for rational self-government, including executive functions (self-directedness), legislative functions (cooperativeness), and judicial functions (self-transcendence), which can be measured by

character traits of the temperament and character inventory (TCI) [9]. In addition, differences in irrational emotional drives within a person are measured as TCI temperament traits that elicit fears (harm avoidance), selfish and impulsive desires (novelty seeking), and high reward dependence

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KEY POINTS

- Recent research shows that human personality depends on three major systems of learning and memory: associative conditioning, intentionality, and self-awareness.
- These learning systems collaborate with one another, which results in integration of emotional (temperament) and self-regulatory (character) aspects of personality.
- The search for coherence of character and temperament drives personality change toward well being (i.e., brings emotions and habits into accord with rational goals and prosocial values).
- Effective promotion of healthy personalities needs to be person-centered to understand and motivate people to want to change and to learn how to cultivate their own health and that of their communities and habitats.

(R, social dependence) or low reward dependence (r, social detachment) [10]. A fourth temperament dimension (persistence) facilitates intentional self-control regulating impulsive emotional drives to be guided by rational goals and values despite intermittent reinforcement. Use of the TCI provides a person-centered approach to measure the biopsychosocial processes within a person that shape and adapt their cognitive and emotional responses to ever-changing internal and external conditions [11].

The cognitive and emotional systems the regulate personality and its development are complex, and it has been unclear what conditions facilitate the development of rational self-government strong enough to lead to well being despite the ever-present forces that can provoke irrational emotional reactivity and habits.

Fortunately, recent advances in understanding the biopsychosocial basis and treatment of personality and its disorders offer new fundamental insights that allow us to address these problems in effective person-centered ways [12].

HUMAN PERSONALITY IS THE EXPRESSION OF THREE MAJOR SYSTEMS OF LEARNING

Recent research provides an empirical basis for evaluating the controversial proposal of Carl Rogers and most, but not all, person-centered therapists that people have an innate desire for self-actualization (i.e., genuine coherence of their habits, goals, and values by growth in self-awareness) [13,14]. Now research shows that human personality does depend on flexible systems of learning that promote growth in creative self-awareness, not fixed traits [15]. Human personality is the expression of three major systems of learning and memory that evolved in steps during human phylogeny: associative conditioning, intentionality, and self-awareness (Table 1) [15,16].

People who most prominently express one of these three systems can be described by distinct configurations of character and temperament traits [15]. As summarized in Table 1, emotional-unreliable individuals are low in character traits of self-directedness (s) and cooperativeness (c) character, and they are high in temperament traits of novelty seeking (N) and/or harm avoidance (H), which frequently leads to personality disorder and low levels of well being. Organized-reliable individuals are highly self-directed (S) and cooperative (C), but low in self-transcendence (SCT), which results in intentional seeking of materialistic goals for themselves (possibly with incidental benefits for others), which leads to

Table 1. Evolution of three networks for learning in modern humans

Learning system	Evolutionary emergence	Prototypic TCI Profile	Genotypic network	General mechanism	Molecular process	Gene numbers
Associative conditioning	41 mya in primates (well developed in chimps & early humans)	Emotional-unreliable (sc-NH)	Emotional reactivity	Habitual response to extracellular stimuli	ERP and PI3K pathways respond to extra-cellular stimuli	249
Intentionality	1.8 mya in <i>Homo ergaster</i>	Organized-reliable (SCT+nhR)	Intentional self-control	Self-control of seeking food and other goals	Inositol/Ca ²⁺ Second-messenger signaling within cells	438
Self-awareness	100 kya in <i>Homo sapiens</i>	Creative-reliable (SCT-nhR)	Creative Self-awareness	Integrated gene co-expression for health in changing contexts	Noncoding RNAs unique to sapiens coordinate groups of cells	574

Adapted from Zwir et al. Evolution of genetic networks for human creativity. *Mol Psychiatry* 2022;27:354–376.

intermediate levels of well being and increasing disease burden with age. Creative-reliable individuals are highly developed in all three TCI character traits (SCT) and have reliable temperaments (nhRP). They are creative in character, reliable in intentional self-control of their temperament, and have prosocial values, which leads to the highest level of health and well being. These three groups are approximately equal in prevalence in most countries [15²²] with some variability due to sociocultural influences [17,18²³].

Long-term memory of what we learn from experience can give moderate stability to personality, but the capacity for personality change may be reduced, but is not lost, as we age because personality is an expression of systems of learning. Nearly all the heritability for human temperament, character, and the underlying learning systems have been accounted for by specific genes, along with characterization of how they are dynamically and collaboratively organized in clusters and networks [5²⁴,9,10,12²⁵,15²⁶,16]. The 972 genes in all three learning systems are all expressed in the brain and about 70% are also expressed in most organs systems and tissues of the body, so they are positioned to influence all aspects of health (physical, mental, and social) [15²⁷].

Identification of the genes for personality in modern humans allowed detailed comparisons with the genomes of chimpanzees and Neanderthals [5²⁸,12²⁹]. Nearly all (95%) of the 267 genes unique to modern humans were noncoding RNAs that are involved in regulate the expression of protein-

coding genes and the co-expression of genes in functional clusters, as well as regulating epigenetic processes. About 70% of these were in the self-awareness network and under positive selection because they were advantageous for longevity, reproduction, and cooperative breeding in communities that involve kin and nonkin. The emergence of self-awareness in *H. sapiens* resulted in a capacity for rapid epigenetic changes in character mediated by long-noncoding RNAs [5³⁰], whereas intentional self-control allows slower conditioning of temperament with persistent effort [16].

THE DEVELOPMENT OF AWARENESS

The recent findings from genomics and brain mapping provide new insight into the path by which human character develops [5³¹,12³²,19³³]. Longitudinal studies have distinguished 3 stages of self-awareness beyond automatic emotional reactivity [20]. The growth in insight and judgment involves improved rational self-government as well as enhanced plasticity, prosocial (self-transcendent) values, and well being (Table 2). Plato’s allegory of the cave provides a striking way of visualizing the progressive enlargement of awareness in which more of what was unconscious or felt as vague and unclear at a lower stage becomes conscious and clear, as is facilitated in a variety of person-centered and experiential therapies [21]. The expansion of awareness allows development of self-transcendent goals and values inspired by insight (intuitive evaluation and reasoning).

Table 2. Stages of awareness

Stages of awareness (learning system)	Personality profile (cultural subtype)	People in Plato’s allegory of the cave	Distinguishing biopsychosocial features
0 – unaware (learn by behavioral conditioning only)	Emotional-unreliable (“traditionalists”)	Prisoners, trapped by irrational desires, see only shadows and illusion	Emotionally reactive, immature, ruled by fear, desire, habits, traditions; unhealthy
1 – egocentric (learn by intentional self-control to regulate habits and selfish individual or tribal goals)	Organized-reliable (“materialists”)	Self-serving or tribal image-makers in darkness, use technology to cast illusions and social norms by shadows, propaganda, myths	Purposeful but materialistic and self-serving; dissatisfied and unhealthy as they age
2 – allocentric (beginning to use self-awareness to integrate all learning systems, but still mainly rely on physical senses and analytical intellect using uncertain assumptions about values)	Creative-reliable (“postmaterialists”)	Those who see glimpses of sunlight at opening of the cave, and seek to reach the source of wisdom	Allocentric and mindful, some self-transcendent experiences; healthy and seek well being & wisdom in silence
3 – contemplative (directly perceive what is truly valuable for self & others, intelligences well integrated to bring habits and emotions into accord with goals and values)	Creative-reliable (“cultural creatives”)	Lovers of wisdom who are out of the cave, illuminated by sunlight	Highly self-transcendent, oceanic feelings with outlook of unity; long, healthy, creative, virtuous lives

Adapted from Zwir *et al.* Mol Psychiatry 2021;26:3858–3875.

The driving force of healthy self-actualization (expanding self-awareness) is the collaborative integration of the three learning systems that allow a person to bring their emotional reactivity and habits into accord with their rational goals and values. This collaborative and integrative process can be represented by another image provided by Plato in his metaphor of a Charioteer whose flying chariot is kept elevated by the dedicated efforts of a courageous white horse despite the erratic behavior of an unruly black horse [19[¶]]. The charioteer represents Reason (intuitive insight inspired by virtue, that is, the disposition to express self-transcendent values), the unruly black horse is Appetite (irrational emotional drives), and the dedicated white horse is intentional self-control (persistence or fortitude). In the TCI, reason is self-awareness (the creative character, SCT), appetites are the emotional drives (extremes of temperament), and fortitude is Intentional self-control (SPH). Likewise in person-centered and experiential therapies, a compassionate therapeutic alliance assists a person to connect their inner experience with increasing awareness and insight about what gives their life meaning and purpose, thereby promoting the development of well being [22^{¶¶}].

These correspondences are shown in a recent study of the relations between the TCI and virtues in action (VIA) (Table 3) [23^{¶¶}]. In a large sample of adults, virtues in action were associated with features of the creative character (SCT), high persistence (P), and reliable temperament (nhR). Virtues are defined as strong and habitual dispositions to do what is good for oneself and others. In prior work with TCI, putting virtues of hope, love, and faith into action was described as letting go, serving others, and awareness [20,23^{¶¶}]. All VIA components were associated with high self-transcendence and persistence, whereas self-control, caring, and inquisitiveness were most strongly related to S, C, and T, respectively (Table 3).

THE COHERENCE OF CHARACTER AND EMOTIONALITY IN ACTION DETERMINES WELL BEING

Considering that learning systems for personality are related to joint character-temperament

configurations, it is important to understand two major questions to know how promote well being. First, what restrictions are there on possible combinations of character and temperament? Specifically, the virtues of love, hope and faith are disjoint and discordant from fear, selfish desire, and distrust, as can be seen in Table 4 (initial group of rows on disjoint meaning-emotionality). Put another way, for example, the virtue love implies the absence of fear, so they cannot co-exist; either love transforms what was fear, or fear transforms what was love. Therefore, certain character configurations are only compatible with certain temperament configurations.

Second, what drives personality toward well being rather than ill-being? When the self-regulatory functions of character are strongly developed, they give meaning and value to rational actions that are in accord with positive emotional states, as shown in the middle group of rows in Table 4. The coherence of the positive meaning and emotions of the joint relations of creative characters (SCT) and reliably regulated temperaments (PRnh to condition unruly temperaments for unbiased plasticity) leads to the development of positive health and well being, as confirmed repeatedly [5^{¶¶},8,24]. In contrast, irrational emotional drives may be stronger than the self-regulatory capacity of weak character configurations, such as apathetic (sct) and schizotypal (scT) characters; then, irrational impulses and negative emotions lead to the development of ill-being [6,7], as shown in the bottom rows of Table 4. These considerations are further supported by other empirical work on the biopsychosocial mechanisms and conditions that enhance or block personality change toward health [5^{¶¶},15^{¶¶}].

Of course, most people do not function at the extremes displayed for clarity in Table 4. Most of us are in movement toward greater or lesser coherence of temperament and character as we use finite self-awareness to adapt to changing conditions. Many variable influences on personality change need to be orchestrated as complex and multifaceted aspects of the whole person. The influences are both heritable and acquired dispositions because adaptation

Table 3. Correlations of virtues in action (VIA) principal components with TCI personality dimensions

VIA components	S	C	T	P	N	H	R
Self-control (letting go)	0.23		0.23	0.41	-0.38		
Caring (serving others)	0.34	0.54	0.39	0.45		-0.20	0.43
Inquisitiveness (awareness)	0.31	0.22	0.53	0.47		-0.45	0.28

[¶]TCI dimensions are self-directedness (S), cooperativeness (C), persistence (P), novelty seeking (N), harm avoidance (H), and reward dependence (R). Adapted from Moreira et al. *J Pos Psychol*, 2021. <http://doi.org/10.1080/17439760.2021.1975158>.

Table 4. Coherence of character (meaning & value) and temperament (emotionality) drives personality toward well being

Character profile	Components of meaning and value	Components of intentional self-control	Components of positive/negative emotionality	Temperament profile
Disjoint meaning-emotionality				
SCT	Love	Impossible	Fear	prH
SCT	Hope	Impossible	Desire	pN
SCT	Faith	Impossible	Distrust	prH
Integrated rational meaning-emotionality				
SCT	Love	Strong (SPH)	Compassion	PRh
SCT	Hope	Strong (SPH)	Largesse	Pn
SCT	Faith	Strong (SPH)	Trust	PRh
SCT	Full virtue & well being	Unbiased Creativity	Equanimity	Unbiased plasticity
Irrational meaning-emotionality				
sct	Apathy	Weak (spH)	Fear	prH
st	Avolition	Weak (spH)	Desire	pN
scT	Schizotypy	Weak (spH)	Distrust	prH

*Fear, selfish desire, and distrust are emotional states that are disjoint and discordant (i.e., cannot co-exist) with love, hope, and faith (just as s and S are disjoint by defined meaning). The healthy character traits transcend and condition the disruptive influences when intentional control is strong. The disruptive influences of unhealthy temperament profiles lead to apathetic (sct) or disorganized (scT) character profiles when character and/or intentional control is weak.

involves genetic, epigenetic, and learning processes. The self-regulatory influences of character involve executive, legislative, and judicial functions. The habits and emotional reactivity of temperament need to be behaviorally conditioned to be in accord with the person’s own goals and values. People often need to grow in awareness of what has lasting satisfaction for them, what is realistic and sustainable, how what they do influences their health and that of others. Helping any person, whether family, friend, or patient, to self-organize their character and temperament in a way that is healthy, rational, satisfying, and good requires compassionate listening by each person because we are all unique. Each of us needs to orchestrate their own life in ways that are meaningful and satisfying for ourselves and others because we are inseparable from our communities and habitats [20,25[¶]]. Individual well being can be fostered in healthy congruent person-centered relationships [22^{¶¶}], and more generally, depends on collective well being of the communities and habitats in which we live [25[¶],26].

THERAPEUTIC IMPLICATIONS OF THE NEED FOR A COHERENT PERSONALITY FOR WELL BEING

The dependence of well being on the cognitive-emotional coherence of personality has broad implications for clinical practice. It has strong implications for what makes a therapeutic alliance effective and for the need for using a broad array of physical,

emotional, intellectual, cultural, and spiritual experiences to promote self-actualization. In other words, effective promotion of well being depends on a complex biopsychosocial approach.

Treatment begins by assessing where the person is on the path of self-integration to develop their coherent way of living as a member of the larger milieu (family, community, world, and beyond). Integrative (i.e., rational and compassionate) listening fosters a person-centered therapeutic alliance in which there is mutual respect and empathy, unconditional positive regard, and congruence in the relationship (i.e., authenticity) [27], which has been estimated to account for 85% of outcomes in therapeutic trials [28]. Each of us is a person with intrinsic dignity, not a diagnosis or set of diagnoses. Each person is a complex conscious being with habits, goals, and values expressed in a larger physical, social, and spiritual context. For example, it is important to promote the agency of a person (their self-directedness) rather than treating them as dependent [13]. Doing so may require compassion and patience to allow their growth in insight. Respect for each person’s agency while listening or questioning to help them clarify their goals and values, in turn models and promotes legislative skills (their cooperativeness) and judicial skills (their self-transcendence) along with concordant emotions [14[¶]]. Recent person-centered interventions with long-term unemployed people and traumatized refugees from disaster areas demonstrate that the integrative processes present in person-centered

therapeutic alliances are rapidly effective in promoting character-temperament coherence and well being [29,30]. These integrative processes are further enhanced by putting the acquired insights into practice in a variety of enjoyable spa-like activities for the whole person that promote awareness, including physical (e.g., heat/cold, nature walks), mental (e.g., cognitive-emotional), and meditative and contemplative experiences [16,25,29].

Another major implication is that effective person-centered therapeutics requires a biopsychosocial and spiritual perspective to address all aspects of a person (i.e., their body, thought, and soul). Consequently, the person is encouraged to become more aware of all aspects of themselves and their lives including social, cultural, ecological, and spiritual connections. Such multimodal biopsychosocial approaches lead to enhanced outcomes [2,29].

Techniques and/or medications to address symptoms or syndromes can be useful tools, especially when combined with acceptance of person-centered planning. However, they are not sufficient to promote well being strongly because the underlying cognitive-emotional systems that need to be integrated are complex and collaborative [1]. Prescribing medications only or establishing rules of conduct has little or no lasting benefit when it does not motivate the person to discover what is meaningful and valuable for their self. Boundaries about what is rational and beneficial must be set at times, but this can be done with mutual respect [31]. A proposed boundary represents a limit beyond which one cannot be involved, so that the other needs to make a choice whether to continue working with you, and vice versa.

CONCLUSIONS AND RECOMMENDATIONS

A person-centered perspective is crucial in health promotion and treatment because coherence of character and temperament is essential for the development of well being. Person-centered therapy is useful in the full range of mental disorders (psychosis to adjustment disorders) as well as promoting healthy physical, social, ecological, and spiritual functioning. When a person is physically traumatized, sick or tired, stressed and fearful, demoralized or devalued, it can be difficult to progress in awareness, so all aspects of the person need to be addressed. All these issues need to be addressed collectively as interdependent aspects of a complex system, not as separate problems that can be dealt with independently. Likewise, people need to build communities of trusted friends to help one another, and to care for the environment in which they live to the extent they can. Our inseparable connection to other people and nature helps promote our own

individual well being [8]. We need healthy communities and habitats to sustain our own health.

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Conflicts of interest

There are no conflicts of interest.

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