



Personalized values in life as point of interaction with the world: Developmental/neurobehavioral basis and implications for psychiatry

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Abstract

Behavioral neuroscience has dealt with short-term decision making but has not defined either daily or longer-term life actions. The individual brain interacts with the society/world, but where that point of action is and how it interacts has never been an explicit scientific question. Here, we redefine value as an intrapersonal driver of medium- and

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long-term life actions. Value has the following three aspects. The first is value as a driving force of action, a factor that commits people to take default-mode or intrinsic actions daily and longer term. It consists of value memories based on past experiences, and a sense of values, the source of choosing actions under uncertain circumstances. It is also a multilayered structure of unconscious/automatic and conscious/self-controlled. The second is personalized value, which focuses not only on the value of human beings in general, but on the aspect that is individualized and personalized, which is the foundation of diversity in society. Third, the value is developed through the life course. It is necessary to clarify how values are personalized through the internalization of parent-child, peer, and social experiences through adolescence, a life stage almost neglected in neuroscience. This viewpoint describes the brain and the behavioral basis of adolescence in which the value and its personalization occur, and the importance of this personalized value as a point of interaction between the individual brain and the world. Then the significance of personalized values in psychiatry is discussed, and the concept of values-informed psychiatry is proposed.

KEYWORDS

adolescence, intergenerational, life actions, personalized, values

INTRODUCTION

In mental health care, a shift from hospital-centered to community-centered and person-centered care has long been advocated.^{1,2} Recent years have witnessed expansions of person-centered principles of care, such as personal recovery,³ trauma-informed care,⁴ shared decision-making,^{5,6} and co-production.⁷ Although this trend is desirable, we need to assess whether such care and communication approaches are truly “person-centered” in practice.

In the field of mental health care and welfare service, as well as when thinking about human life, we have continued to ask the question, “What do ‘life (life-course or long-term life action)’ and ‘living (daily life)’ mean?”. These are everyday terms with no clear definition, although they are extremely important in behavioral sciences, including psychiatry. We here define “value” as the driving factor for individuals in leading their own lives.⁸ This definition of value is indispensable when considering person-centered care. Accordingly, we propose the concept of “values” and their relationship to adolescence, a life stage when values become personalized.⁸ By redefining values as a point of interaction between the individual and society/world, we hope to bridge psychiatry, brain, behavioral, humanities, and the social sciences. Here, the term “world” refers to the synthesis of society, composed of a collection of people and their relationships, and the environment, including natural and man-made elements. Finally, we will propose a new framework of values-informed psychiatry, one associated with a deeper understanding of values and their personalization in adolescence.

REDEFINING ACTIONS FOR HUMAN BEHAVIORAL NEUROSCIENCE

Support in mental health care and welfare involves interacting with people and their families who are earnestly living their lives while facing difficulties and suffering, and listening to their untold stories. This process naturally leads to the question: “How do people live?” It is not a moral question of how one “should” live, but rather a question of “what” one is striving for long term in life. What are people’s needs, and what do people seek, over the course of their lives? People might spend their lives without being conscious of what life would be; our individual life history is always formed in retrospect.

There are fields such as behavioral science and behavioral medicine, where the definition of “behavior” is treated as self-evident and surprisingly not clearly defined. It is necessary to classify human behavior by its duration in life. Ultra-short- and short-term decision making (seconds to days) and behavior based on that decision making are actively studied in the neuroscience of reward systems. However, daily to monthly life behaviors, such as household chores, work, physical exercise, recreational activities, and sleep, do not usually involve complex choices and are performed in a default mode, making them difficult targets for scientific investigation. We define these everyday behaviors as default-mode life actions.⁸ People also make planned actions on a monthly to yearly basis, but most of our long-term actions and outcomes are not planned in advance and are influenced by chance. Here, we call these long-term actions “life” actions.⁸ However, these life actions have not been established as an important issue in behavioral neuroscience.

WHAT ARE VALUES: THREE ASPECTS

Values as a driving factor for actions

We consider values a key driving force when individuals perform medium-term and long-term actions. In general, the word “value” is considered to belong to external objects important for an individual. For example, money is valuable and cherry blossoms are beautiful. This is acceptable when there is a consensus among many people about truth, goodness, and beauty. However, in cases wherein a consensus is not reached, such as patient–physician conversations in medical settings (e.g. “I do not want to take the drug as it causes side effects.” and “I want you to take the drug as it is effective.”), we should think about where the disagreement comes from, and we realize that the value is on each individual's side.

With respect to the concept of value, its difference from the expression “sense of values” should be considered. Since the expression includes “sense,” it probably reflects being self-aware/conscious of and verbalizing one's own value. On the other hand, certain values probably arise over the course of everyday and long-term life actions without individuals becoming aware of them. Thus, value includes both the conscious (sense of values or value conscientization) and unconscious parts. It is no exaggeration to say that for individuals' long-term life actions, the nonconscious value largely serves as a driving factor, as demonstrated by dynamic psychiatry.⁹

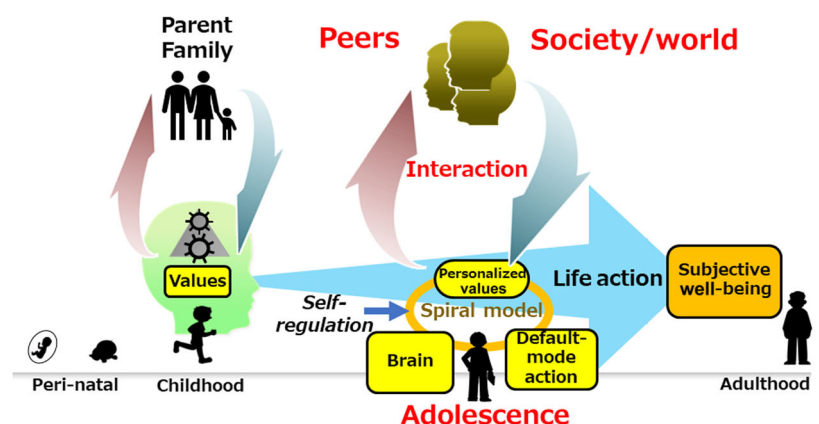
Spiral model of values development

Considering that value is a driving factor for daily life actions, and given the evidence that habitual behavior leads to plastic brain changes,⁸ the following spiral model of value development can be assumed: “default-mode action→brain plasticity→values” (Figure 1). Murai and colleagues demonstrated this spiral model by analyzing the

relationship between behavioral indices and magnetic resonance imaging (MRI) findings. To test the hypothesis of structural brain correlates of daily experiences and behaviors, Ueno et al.¹⁰ examined the relationship between a self-reported 24-h life-log and the regional brain volume measured by structural MRI in 64 male and 53 female healthy adults. They found gender-specific correlations, including a female-specific positive correlation between superior frontal gyrus volume and domestic work hours, and a negative correlation between the volume in the same region and job work hours. In a subsequent study examining the relationship between Internet use and the brain's motivational network involved in the reward system, the higher the Internet use in healthy individuals, the stronger the functional connectivity (FC), and the autism spectrum tendency mediated this favorable correlation in a diminishing direction.¹¹ These examinations suggest that a less excessive degree of lifestyle is associated with healthier brain activity, and that this is underpinned by a value system that allows for flexible self-discipline. Moreover, Kobayashi et al. observed that the degree centralities (DCs) of resting-state FCs in the dorsal attention network were higher during the resting state than while performing the cognitive task. Furthermore, the DCs during the task were positively correlated with the individuals' tendency for media multitasking, thus the DC reduction from resting state to the task in high media multitaskers was attenuated compared with low media multitaskers.¹² These results may cast a vote for the trained attention hypothesis of media multitasking in modern healthy individuals, rather than the scattered attention hypothesis. To understand how brain activity in the default mode network (DMN) is related to psychological resilience, Miyagi et al. clarified the dynamic profile of DMN FCs during the switch from the default mode to task-related behavior and the maintenance of task-related behavior.¹³ From a different research group, Nakamura and colleagues also focused on eating behavior, and clarified the relationship between the desire to be thin, body mass index, and resting-state FC in the value-coding areas such as the ventromedial prefrontal cortex.¹⁴ Such studies will be important in elucidating the

Values personalization in adolescence

FIGURE 1 Values personalization in adolescence. The value is defined as an intrapersonal driver of medium- and long-term life actions, and a point of interaction between the individual brain and the world. The value is developed through adolescence when its personalization occurs



basis of the relationship between daily life actions in the real world and brain plasticity.

Values as personalized

In the previous section, we focused on the aspect of value as a cause of action. The next aspect focuses not only on the general value of human beings, but also on the aspect of being individualized and personalized. This personalized value is the foundation for diversity in society.

Intergenerational transmission of values

As values develop and evolve within the individual, there is first the influence within the family, especially from parent to child. In the relationship between a father or mother and a boy or girl, there are both conscious and unconscious transmissions of values and behaviors. For example, a parent-child survey showed that mental illness-related stigma shared between adolescents and their parents,¹⁵ and parental stigma toward people with mental illness diminished the effect of an educational intervention on reducing stigma for their children.¹⁶ Although such intergenerational transmission of values in a family is an important theme in clinical psychiatry settings, their neurobehavioral basis has not been studied in depth, except for the negative effects of maltreatment on brain development.¹⁷ During adolescence, shared values based on relationships with peers become more important.¹⁸ In addition, adolescents seek to model their behavior and norms not only on their parents but also on other adults.¹⁹ The transmission and sharing of values in these vertical relationships with parents and horizontal relationships with peers and society become the basis for interpersonal relationships in adulthood. To investigate the intergenerational transmission of values, Nishida, Kasai, and colleagues have conducted the Tokyo TEEN Cohort (TTC), a population-based cohort with a sample of 3171 households randomly selected from the General Basic Resident Registration of three cities in Tokyo: Setagaya, Mitaka, and Chofu.²⁰ Longitudinal psychological/behavioral investigations of 10-year-old children and their parents have been conducted once every 2 years. Using the TTC, Ando et al.²¹ showed that when a mother has positive attitudes toward help-seeking, the child also has positive attitudes towards it; in addition, when the child is a boy and the social norms for gender roles are strong, attitudes toward help-seeking are poor. Moreover, Fujikawa et al.²² demonstrated that even if combined with warm nurturing, corporal punishment as a discipline is significantly associated with being bullied, bullying, or both bullying and being bullied.

Brain imaging and molecular biological data have been longitudinally obtained from some TTC participants. Since this is a population-based, unbiased sample-based neuroscience research, they named and promoted it as population-neuroscience TTC (pn-TTC).²³ Using the pn-TTC, they have conducted intergenerational scientific studies.

For example, Itahashi et al.²⁴ reported that functional brain connectomes associated with the paternal-child and maternal-child relationships created by children's brain MRI dataset predicted children's externalizing and internalizing problems, respectively. Okada et al.²⁵ demonstrated the neural basis of prosociality, that is, active altruistic behavior, and that of intergenerational transmission from parents to their children by analyzing the pn-TTC data. They found a significant positive parent-child association for prosociality and γ -aminobutyric acid (GABA+)/glutamate and glutamine (Glx) ratio. There was also a significant negative correlation between the GABA+/Glx ratio and prosociality in both children and parents. Takagi et al.²⁶ conducted a comprehensive investigation of the effects of intergenerational transmission on functional and structural brain networks by analyzing the parent-child dyads' data of the pn-TTC. They found preserved patterns of functional and structural brain networks over a generation and relationships of several demographic factors and behavioral/physiological phenotypes with brain similarity.

Values: Point of individual-world interaction

A different environment surrounds each individual. A part of such an environment is a society that consists of a group of individuals and the accumulation of relationships among individuals. The other is the social structure such as culture, institutions, etc. Collectively we name such an environment that directly influences each individual as "the world." The characteristics of the world influence the value formation of an individual. Collection of individuals, on the other hand, shapes and changes the world. Thus, the individual and the world dynamically interact to influence values. For example, if a person migrated to somewhere else, she/he may become a minority to be discriminated against and prejudiced against by the world, which may lead to the formation of beliefs such as "I am a minority, I am unnecessary to the society." Social neuroscience studies on how an abstract and dynamic structure such as society affects the development of individual values has not been sufficiently investigated. Meyer-Lindenberg et al. pioneered the study of the effects of urban life and minority status on brain development until adolescence.^{17,27,28} However, future research on the significance of adolescence with respect to the interaction between the brain and society/world is warranted.

Values as developed in adolescence

Adolescence

When are values formed over the course of a person's life? Childhood is a period during which value is transmitted from parents. Adolescents, on the other hand, rebel against the values inherited from their parents and instead try to share values with their peers. Adolescence is a life stage in which social relationships rapidly

become complicated. Society consists of a collection of individuals, but on the other hand, culture and systems, as shared values in society, or social structures, influence the value formation of individuals. Accordingly, social values are internalized in the individual and become individualized values, on which people base their long-term lives. This process is referred to as value personalization (Figure 1). We call these subjective values "personalized values."⁸ Adolescence is likely a critical period during which values are personalized.

Human life course is roughly divided into the peri-natal period, childhood, adolescence, adulthood, and aging. Adolescence has been defined as being between the ages of 10 and 19 years according to the World Health Organization (WHO).²⁹ How to define the age range of adolescence depends on which aspect of adolescence is observed (sexual/physical spurt, brain development, psychosocial maturation). In contemporary society, it has been argued that adolescence should be extended from 10 to 24 years old, reflecting the growing age mismatch between biological and psychosocial maturation.²⁹

Self-regulation and personalized values

The brain function maturation in neocortical regions during adolescence allows for self-regulation, a uniquely human ability to recognize, feedback, and control one's own mental representations through inner speech based on language.¹⁸ In addition, due to the surge of sex hormones, such as testosterone, the sensitivity to differences between the self and one's peers is heightened. Through these processes, the values shared by society are internalized into the self, and personalized values are formed as a motivating factor to undertake medium- and long-term actions. These processes provide an extremely important foundation for a fulfilling life in adulthood. The question of how self-regulation and the development of values are interwoven in adolescence has been largely unclear because neuroscience has only just begun to address the processing of the self,³⁰ as well as its integration with developmental psychology in adolescence. The long-term perspective in life, a sense of discomfort in intergenerational transmission of values from parents, and the ability to acquire and verbalize perspectives on values shared by peers and society are considered to be important foundations for the development of personalized values and require the development of metacognition associated with capability of using abstract language as the tool for inner thoughts. Although there have been few studies on the adolescent development of metacognition, Hashimoto et al. clarified the brain FC related to the acquisition of others' perspectives during self- and other-referential processing in typically developed young adults, and found that it is altered in autism spectrum disorder.³¹ Moreover, behavioral activation intervention for late adolescents with subthreshold depression improved brain activation in the dorsomedial prefrontal cortex associated with other perspective self-referential processing.³² Adolescents are still in the process of developing their self-referential abilities, and there are

limits to the accurate measurement of metacognitive abilities using self-administered questionnaires. Thus, dos Santos Kawata et al. have developed a scale to measure metacognition in adolescents in which the metacognition was assessed based on congruence between the child's self-report from a third-person perspective and the parent report from the first-person perspective.³³ Based on these studies, it is expected that the relationship between self-regulation and personalization of values in adolescent development will be clarified in the future.

Neuroscientific basis

A major neuronal mechanism for value formation in the brain is dopamine-dependent learning. Dopamine neurons exhibit phasic increase and decrease in activities depending on changes in the external values. Recently, Yagishita et al. used a Pavlovian conditioning task in mice and showed that the dopamine D2 receptor refined the memory of values (discrimination) according to the difference between the actual value as compared to the predicted values that are generalized by the function of the dopamine D1 receptor.³⁴ Based on this study, a new viewpoint has emerged, whereby in the context of the formation of personalized values in adolescence, the memory of values is formed by repeating generalizations and refinements through social experiences.

By using the pn-TTC data, researchers have investigated the human neuroscientific basis for value personalization in adolescence. For example, Okada et al.³⁵ reported a negative correlation between prosociality as a manifestation of personalized values and GABA concentration in the anterior cingulate cortex measured by magnetic resonance spectroscopy, as well as an association between these and resting-state FCs.

Long-term life outcomes

Personalized values are not only the driving factor for default-mode, daily-life actions but also the driving factor for long-term life actions. Concerning how personalized values affect long-term life actions, Yamasaki et al.³⁶ demonstrated the interactive effects of personalized values and self-regulation¹⁸ long term over one's life by an international collaboration with the 1946 National Birth Cohort study. The study showed that even if self-regulation is limited in adolescence, when people select life based on intrinsic values (such as interests), that is, personalized values, rather than extrinsic values (such as high salary), life satisfaction in the aging period is high. This is an interesting finding that affirms the diverse nature of adolescent mind and behavior, and has significant implications for education, in contrast to the fatalistic hypothesis that self-regulation in adolescence might be a rate-limiting factor for long-term socioeconomic and health outcomes.

Watanabe et al.³⁷ found in a comparative survey of 1032 people (516 people in Japan and the United States each) that personal values

as indexed by Schwartz's Personal Values Questionnaire II (PVQ-II) and commitment to those values in adolescence were associated with mental health and well-being in adulthood. They also found an association between time preference and personal values in a different sample of adult community residents in Japan ($N = 2787$).³⁸ Furthermore, Sasaki et al.³⁹ observed that personal values in adolescence were associated with metabolic health in adulthood ($N = 668$ from the Japanese Study on Stratification, Health, Income, and Neighborhood [J-SHINE]).

HOW CAN VALUES BE MEASURED/ ASSESSED?

Behavioral

Personalized value is considered to present two axes: "domain," where the subject places value, and hierarchical "degree," where the subject is committed to that value. Therefore, if we try to evaluate value using the traditional questionnaire methods, it is highly likely that respondents will be conscious of the social desirability of their answers and response bias will occur. To overcome this problem, Iijima et al. developed a method to quantify values using paired comparison methods.⁴⁰ This method not only allows data to be obtained with less bias than conventional measurement methods, but also makes it possible to collect important information for understanding the process of value formation, such as the priority of values and their inconsistency rate. This personalized value measurement method can be an effective tool for measuring value transmission between parents and children. Schwartz and colleagues are the leading researchers of personal values as a concept in personality psychology, and based on theory and empirical data, they developed a self-report questionnaire to measure 19 distinct values, called the 57-item Portrait Values Questionnaire (PVQ-57).⁴¹ Furthermore, Ozawa and colleagues developed the Brief Personal Values Inventory (BPVI), a 12-item shortened version of the PVQ that is easier for adolescents to understand and less burdensome.⁴²

Qualitative

In Section "values as a driving factor for actions," we described that values include both conscious and unconscious parts. In order to understand the impact of unconscious values over long-term life action, quantitative research has limitations, which makes qualitative research necessary. Although per the definition there are also methodological limitations in comprehensively understanding value as a driving factor of unconscious life with a qualitative approach, it still has a potential to construct a new hypothesis that can go beyond traditional quantitative assessments. Regarding the conceptual construct of personalized values from the perspective of mental health care and human well-being, the concept of personal recovery,³ originally proposed in the United Kingdom as a profound personal

and unique process to change individual attitudes, values, feelings, goals, abilities, and roles to achieve a satisfactory, hopeful, and productive way of life, with the possible limitations of illness may be interrelated. Kanehara et al. showed that the concept of personal recovery is generally applicable to the Japanese.⁴³ On the other hand, in a subsequent qualitative study, they found that connections with others and freedom from social norms, which are unique to Japanese, are important for recovery.⁴⁴

IMPLICATIONS FOR PSYCHIATRY

Relevance of the concept of personalized values to clinical psychiatry

In adolescence, values shared by society are internalized to the self, and values are personalized as a motivating factor for medium- and long-term actions. Such a process is an extremely important foundation for a person's long-term life and, conversely, if a person experiences compromised cognitive functions, trauma in childhood, or socio-structural stress in adolescence, the vulnerability of brain functions will accumulate, which may lead to the onset of mental illness. According to the WHO's Global Mental Health Survey, approximately 50% of all mental illnesses occur by the age of 14 and 75% by the age of 24 years.⁴⁵ In developed countries, suicide is one of the leading causes of death among young people. However, there is still a general lack of interactive research on developmental psychology in adolescence and developmental psychopathology.

With regard to therapeutic interventions in psychiatry and clinical psychology where self-motivated behaviors are targeted outcomes, the theoretical framework of behavioral activation based on values is important in cognitive behavioral therapy (CBT),⁴⁶ such as behavioral activation programs and acceptance and commitment therapy (ACT).⁴⁷ Discussions of personalized values, and framing activation assignments in terms of those values, makes the process of behavioral activation more meaningful. Okamoto et al. developed a behavioral activation program aimed at increasing lifestyle behaviors in line with personalized values and decreasing those against (avoidance and rumination) and implemented it for late adolescent individuals with depression. As a result, they found that the number of value-based behaviors increased before and after the intervention and the reward perception for the behaviors increased, which resulted in a significant decrease in depressive symptoms. This effect was sustained even 1 year after the intervention, indicating that behavioral changes based on personalized values are effective for recovery from depression.⁴⁸ The ACT has also been applied to school-based intervention for adolescents.⁴⁹ Mid-adolescents received an open-label trial of low-dose ACT (six bi-weekly group sessions; 5 h in total), which reduced avoidance, and the enhancement of values clarification and committed action were associated with decrease in hyperactivity/inattention.

There are other examples of psychotherapy dealing with individual values, such as existential analysis, Morita therapy, and

Naikan therapy. Existential analysis/logotherapy⁵⁰ can be defined as a phenomenological and personal values-oriented psychotherapy, to lead the person to free experiences, to facilitate authentic decisions, and to bring about a truly responsible way of dealing with life and the world. Morita therapy,⁵¹ which has been proven effective in anxiety and depression, considers that anxiety and people's sense of values to live good lives are considered as two sides of natural human feelings, and that it helps people to accept their anxiety and fears as part of their natural feelings to utilize their characteristics and potential in more constructive and desire-actualizing ways in their lives. Naikan therapy is based on the model that individuals have a self-centered view that guides their life experiences. It introduces a nonself-centered view into people's lives.⁵²

A proposal of values-informed psychiatry

As stated above, assuming values as a factor that consciously/subconsciously drives individuals' long-term actions and modeling this as the point of interaction between individuals and parents, peers, and the world is considered useful for assessing the centrality of individuals in the context of person-centered care. Caring for individuals while being informed of their values is not a caring technique with specific targets and should be regarded as a basic attitude for those involved in care. Accordingly, values-informed care also coincides with the principles of trauma-informed care.⁴ It also implies that we should be aware of the difference in values between the service user and the provider, the potential side effects of the word "value" used in care of traumatized individuals, and the fact that the nature of support based on value changes with time.

In the field of social welfare services for disability, the International Classification of Functioning proposed the social model of disability, which emphasizes disability as a mismatch situation between an individual with a minority of physical and mental characteristics and a social structure and a culture designed for the majority, rather than an impairment on the part of the individual. The concept of values as a point at which individuals and societies interact is also considered useful for sensitively detecting disability using the social model of disability.

On the other hand, the difficulty with the word "value" is that it itself is imbued with value. When a service provider uses the word "value," it cannot help but reflect the sense of value of that person. Therefore, if value is the point of contact between the individual and society, the more pressure and friction, or trauma, one experiences in one's life, the more the word "value" can sound overwhelming. It may be the fate of terms like personalized value, personal recovery, and so forth to take on a vector nature in the interaction between the individual and society. Since the state of the relationship between individuals and society also depends on the culture, when the concept of personal recovery, which originated in Western countries, was introduced to Japan, we should have been cautious.⁴⁴ In order for values-informed psychiatry to be trauma-informed, consideration must be given to the possibility of re-traumatization caused by the client's exposure to the word "value."

The values-informed psychiatry proposed here is a concept that partially overlaps with Fulford's concept of values-based practice (VBP).⁵³⁻⁵⁷ The differences in the meaning of values between the two are discussed in Section "personalized values as 'contact' language." The aim of VBP is to connect generalized best evidence, derived from evidence-based practice and the knowledge and skills of practitioners, with the particular values—the concerns, preferences, wishes, and expectations—of individual patients and their families.⁵³ A comprehensive training manual for VBP has been developed. There are four main skill areas of VBP: awareness, reasoning, knowledge, and communication skills.⁵⁴ VBP and evidence-based practice are not contradictory but are complementary.⁵⁵ Thus, values-informed psychiatry is not in conflict with evidence-based psychiatry but is complementary to it.

TOWARD DEEPENING THE CONCEPT

Personalized values as "contact" language

The concept of personalized value proposed in this article does not advocate a new central dogma in psychiatry. Rather, it proposes a "contact" language for understanding the commonalities and discrepancies between various concepts related to personality, interpersonal relationships, and human behavior and for deepening the concepts via communication among different clinical and research fields. Fulford's concept of VBP^{56,57} in the context of medical communication and Schwartz's concept of personal values⁵⁸ are psychological constructs, but they assume a general meaning of "value" as "sense of value" or "valuing," where values are defined as what matters to those concerned or the desirable goals that motivate people's action and serve as guiding principles in their lives. The relationship with the default-mode daily life and life-action, adolescent developmental perspective, and modeling of relationships with society and the world seem to be less clear, which may be important issues to develop these concepts. Sagiv and colleagues⁵⁸ consider that elucidating the neuroscientific basis of personal value is an important issue for future interdisciplinary research, but only as a possible future research direction. In some forms of CBT, such as ACT⁴⁷ and scheme therapy,⁵⁹ personalized value is a certain psychological concept that drives person-specific psychological reactions and behaviors is defined and assessed as the intervention target. Since the concept of personalized value is simple and relatively compatible with behavioral neuroscience, it may be useful for establishing an evidence base for psychotherapy.

Changes in the nature of personalized values over eras

Clinical psychology and psychiatry are basically clinical sciences that have been built around supporting the individual's mind and behavior. On the other hand, both variables are influenced by the values

transmitted by parents and those shared in society (norms, culture, etc.), especially up to childhood and adolescence. Neither parents nor society is a constant, but they change with time and geographical/cultural environment.

As psychology and brain science progress, human mind and behavior are modeled as timeless and universal, and assessment and intervention are established as specific methods and techniques. At some point, we no longer consider that the characteristics of the human mind and behavior can also change with changing times and society. It would be less problematic only if the number of people for whom a certain established therapy is useful becomes limited over time. However, the risk is that it will end up modifying the individual mind without requesting changes in the society, or that it will become traumatic, for example by fitting the patient to the stereotyped image of the person assumed by the professional group.

How can we positively address these emerging issues in clinical psychology and psychiatry? The function of the human brain and mind is based on relationships with others and the existence of society as a collection of these relationships, so it is necessary to consider, paradoxically, the basic principle of human mind and behavior based on the interaction between the individual and the society/world.

For example, “Seikatsu-Rinsho” (clinical guidance to the way of life) is a therapeutic technique that started in Japan in the mid-20th century.^{60,61} It claims that for young people with schizophrenia, the behavioral characteristics of an individual's way of life can be categorized into passive and active life traits. The passive type refers to an individual who tends to sustain the present lifestyle and is vulnerable to unpredictable changes in the environment where directive and decisive intervention may be effective for relapse prevention. On the other hand, the active type refers to an individual who tends to expand his or her own life actions irrespective of the therapist's intervention, where a trial-and-error approach to social learning is effective. In assessing the type of life actions and individual's hope and aspirations in their future life, Seikatsu-Rinsho considered the intergenerational transmission of values based on detailed interviews of family history over several generations. Thus, Seikatsu-Rinsho may be a value-based approach.⁵⁵ However, the economic and industrial structure of Japanese society and culture, and the nature of the family have changed greatly between the time when Seikatsu-Rinsho was developed and the present. In addition, the reliability and validity of the typology has not been verified, and there is no evidence as to whether it would change over the course of a person's life. There is also no evidence on whether it is better long term to continue to respond to a young person with passive types in a directive and decisive manner, even if it is effective in the short term. Furthermore, in the era of co-production in mental health care, these assessments should be shared between service users and providers in the therapeutic settings and used for self-understanding for better social adaptation, but the term “passive” may not be a suitable word for a recovery-oriented approach. All these issues require an update of Seikatsu-Rinsho to today's concept of values-informed approaches.

CONCLUSIONS AND FUTURE DIRECTIONS

Herein, we proposed the possibility of clarifying the relationship between service users and providers, and between the individual and society, which is often ambiguous when it comes to person-centered care, by introducing the concept of value as an internal factor driving human action and as a point of interaction between the individual and society. During adolescence, the values shared by society are internalized and personalized values are developed as a motivating factor for medium- and long-term actions. Such a process is an extremely important foundation for a future life. The concept of personalized values may allow us to recognize the difference in values between user and provider, and specifically think about how the person's value is formed in relationship with the family and society, and how this understanding can be applied to the recovery of the patient's life. Furthermore, it will be possible to examine the concept of value from a cross-disciplinary perspective, including psychiatry, psychology, philosophy, social science, and behavioral neuroscience.

Future perspectives that need to be addressed include (1) the interdisciplinary study of patterns/modes in the interaction between individuals and society; (2) how a spiral model of values, default-mode and goal-directed everyday actions, self-regulation, and brain plasticity leads to value personalization as a foundation for longer-term life actions; (3) bidirectional human–animal translational research on value development; (4) the influence of time, geographic environment, culture, and other factors on the biological, psychological, and social bases of value; (5) the assessment of values in the evaluation of disability based on the social model of disability; (6) how to share hardly conscious values between service users and providers in an era when mental health services should be more co-productive; and (7) how to disseminate and implement values-informed care.

AUTHOR CONTRIBUTIONS

The corresponding author (Kiyoto Kasai) and all co-authors have contributed to the conception and design of the study. Kiyoto Kasai drafted the manuscript and figures.

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CONFLICT OF INTEREST

The authors declare no conflict of interest.

DATA AVAILABILITY STATEMENT

Not applicable.

ETHICS APPROVAL STATEMENT

Not applicable.

PATIENT CONSENT STATEMENT

Not applicable.

CLINICAL TRIAL REGISTRATION

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