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Insights into Personal Growth and Adolescent Mental Health

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Well-being Processes

Insights into Personal Growth and Adolescent Mental Health

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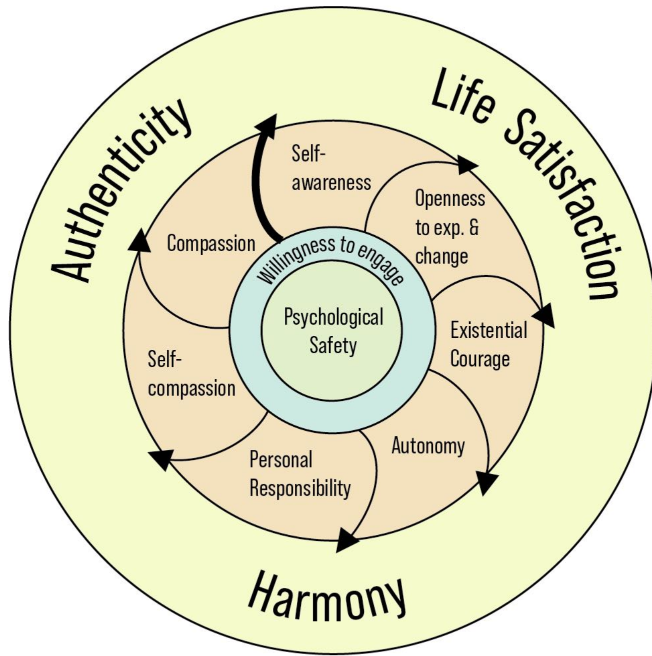
DEPARTMENT OF PSYCHOLOGY | FACULTY OF SOCIAL SCIENCES | LUND UNIVERSITY



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Insights into Personal Growth and Adolescent Mental Health

Mia M. Maurer

LUND
UNIVERSITY

DOCTORAL DISSERTATION

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Key words: personal growth, well-being, adolescent, mental health, positive psychology, organismic valuing process

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To my wonderful family who has supported me throughout this process, and especially to my husband Jason

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Abstract

This thesis follows two main lines of inquiry into well-being processes: 1) a theoretical exploration of personal growth, defined as the gradual growth of well-being, and 2) an empirical exploration of students' mental health profiles and sense of self. Altogether five studies are included in the thesis, two of which follow the first line of inquiry (articles I and II) and three of which follow the second (articles III, IV, and V). The first line of inquiry has the aims of 1) integrating parts of the subfields of positive and humanistic psychology (article I) and 2) suggesting a model of personal growth based on Carl Rogers' (1961) person-centred humanistic theory of therapeutic change operationalized into constructs mainly from positive psychology (article II). This model of personal growth is intended to provide positive psychology and positive education a theory of well-being change that could serve as the basis for a framework for well-being interventions at schools. To promote well-being, one must know how well-being changes; the present thesis aims to fill this gap in the research. The other line of inquiry has the overarching aim of studying facets of this theoretical process among adolescents – adolescents' mental health profiles (article IV), as well as adolescents' sense of self and mental health (article V). Additionally, article III is a validation study of one of the adolescent well-being scales we used. Adolescent mental health should be understood in a nuanced way through profiles, whereby mental health symptoms and well-being are seen as separate continuums that can co-occur in complex ways. We found five different mental health profiles among adolescents: complete mental health, moderate mental health, vulnerable, symptomatic but managing and troubled. People develop a sense of self throughout adolescence, often characterized by a conflicting sense of self in early and mid-adolescence, turning in later adolescence towards greater coherence and authenticity, which are aspects of personal growth. We found that the self-processes of self-awareness and self-compassion are conducive to adolescent authenticity, which was in line with the theoretical model. This thesis contributes to new theoretical developments and research surrounding personal growth and adolescent well-being processes. Future research is suggested to take the study of personal growth further with evaluation of the model, building measurement scales, and framing new well-being intervention initiatives from the perspective of personal growth.

Populärvetenskaplig sammanfattning

Denna avhandling belyser välbefinnandeprocesser utifrån två olika angreppssätt: 1) dels teoretiska beskrivningar av personligt växande, där personligt växande definieras som den gradvisa processen av förändring i välbefinnande, 2) dels empiriska undersökningar av välbefinnande och mental hälsa med fokus på elevers mentala hälsoprofiler och självuppfattning. Sammanlagt ingår fem studier i avhandlingen, varav två är kopplade till det första angreppssättet (artiklarna I och II), och tre till det andra angreppssättet (artiklarna III, IV och V). Det första angreppssättet har det övergripande syftet att 1) integrera delar av områdena positiv och humanistisk psykologi (artikel I) och 2) föreslå en modell för personligt växande baserad på Carl Rogers (1961) personcentrerade humanistiska teori om terapeutisk förändring med begrepp huvudsakligen från positiv psykologi (artikel II). Anledningen till att vi föreslår en modell för personligt växande är att det skulle öka möjligheterna att utifrån positiv psykologi och genom undervisning i positiv psykologi kunna bedriva välbefinnandeinterventioner i skolor. För att främja välbefinnande måste man veta genom vilka aspekter välbefinnande utvecklas och förändras, och detta är en lucka i forskningen som denna avhandling syftar till att fylla. Det andra angreppssättet har det övergripande syftet att utforska olika aspekter av välbefinnandeprocesser genom ungdomars mentala hälsoprofiler (artikel IV), såväl som ungdomars självuppfattningar och autenticiteten (artikel V). Utöver detta, syftade Artikel III att validera den skala vi använde för att mäta ungdomars välbefinnande. Ungdomars mentala hälsa bör förstås på ett nyanserat sätt genom profiler där mentala hälsosymptom och välbefinnande ses som separata kontinuum och därför kan uppstå samtidigt på komplexa sätt. Vi hittade fem olika mentala hälsoprofiler bland ungdomar: fullständig mental hälsa, måttlig mental hälsa, sårbar mental hälsa, symtomatisk men hanterbar mental hälsa och skör mental hälsa. Under tonåren utvecklas självuppfattningen, där man upplever en motstridig självuppfattning i tidiga tonår och i mitten av tonåren, medan många beskriver mer koherens och autenticitet i senare delen av tonåren, vilket är aspekter av personligt växande. Vi fann att processerna självkännedom och självmedkänsla bidrog till ungdomars autenticitet vilket gick i linje med den teoretiska modellen. Denna avhandling bidrar till nya teoretiska och empiriska forskningsbidrag kring personligt växande med fokus på ungdomars välbefinnandeprocesser. Förslag till framtida forskning är att vidare utvärdera den teoretiska modellen kring personligt växande, skapa lämpliga mätskalor för modellens olika aspekter och skapa nya insatser för hur personligt växande kan främjas.

List of Articles

Article I

Maurer M. M., & Daukantaitė, D. (2020). Revisiting the Organismic Valuing Process Theory of Personal Growth: A Theoretical Review of Rogers and Its Connection to Positive Psychology. *Frontiers in Psychology, 11*(1706). doi:10.3389/fpsyg.2020.01706

Article II

Maurer, M. M., Maurer, J., Hoff, E. & Daukantaitė, D. (in press). What is the process of Personal growth? Introducing the Personal Growth Process model. *New Ideas in Psychology.*

Article III

Maurer, M. M., Daukantaitė, D., & Hoff, E. (2021). Testing the psychometric properties of the Swedish version of the EPOCH measure of adolescent well-being. *PLoS ONE 16*(10): e0259191. https://doi.org/10.1371/journal.pone.0259191

Article IV

Maurer, M. M., Daukantaitė, D. & Hoff, E. (in review). Mental health profiles among high school students: relationships to environmental sensitivity and coping self-efficacy.

Article V

Maurer, M. M., Daukantaitė, D., Hoff, E., & Hilpert, P. (under development). Adolescents' sense of self: how social relatedness, self-awareness, self-compassion and authenticity relate to mental health

Author’s contribution to the articles

Article I

Theoretical conceptualization, writing of manuscript, corresponding author

Article II

Theoretical conceptualization, writing of manuscript, corresponding author

Article III

Theoretical conceptualization, writing of manuscript, part of data analysis, corresponding author

Article IV

Theoretical conceptualization, writing of manuscript, part of data analysis, corresponding author

Article V

Theoretical conceptualization, writing of manuscript, part of data analysis, corresponding author

List of abbreviations

AES	Aesthetic Sensitivity
AIC	Akaike Information Criterion
BIC	Bayesian Information Criterion
BPNSFS	Basic Need Satisfaction and Frustration scale
CFA	Confirmatory Factor Analysis
CFI	Comparative Fit Index
ED	Ego Development
EM	Expectation Maximization
EPOCH	Engagement, perseverance, optimism, connectedness, happiness
EOE	Ease of Excitation
FA	Factor Analysis
FIML	Full information Maximum Likelihood
LIFE model	Layered Integrated Framework Example
LPA	Latent Profile Analysis
LST	Low Sensory Threshold
MANOVA	Multivariate Analysis of Variance
MCAR	Missing Completely at Random
OVP	Organismic Valuing Process
PERMA	Positive emotion, engagement, relationships, meaning, achievement
PERMAH/ PERMA-V	Positive emotion, engagement, relationships, meaning, achievement, health/vitality
PGI	Personal Growth Initiative
PGP	Personal Growth Process Model
PP	Positive Psychology
SABIC	Sample-size Adjusted Bayesian Information Criterion
SDQ	Strengths and Difficulties Questionnaire

SDT	Self-Determination Theory
SIPP	Systems-Informed Positive Psychology
SRMR	Standardized Root Mean Square Residual
SWB	Subjective well-being
SWBM	Student Well-Being Model
TLI	Tucker-Lewis Index
WEIRD	Western, Educated, Industrialized, Rich and Democratic
WHO	World Health Organization

Introduction to the thesis

This thesis explores different well-being processes in two ways, one of them being a theoretical exploration of personal growth, defined as the gradual growth of well-being capacities, and the other an empirical exploration of well-being in adolescents through mental health profiles and sense of self. These are all considered "well-being processes" on the basis of the organismic valuing process metatheory, which explains that an individual is prone to developing towards greater well-being (i.e. have an actualizing tendency) when their social environment supports this process (see article I). Therefore, well-being is considered a dynamic process of change. The work of Carl Rogers (1961), particularly his theory of therapeutic change, is central to this thesis, having inspired the theoretical exploration of personal growth and the suggestion of a Personal Growth Process model (PGP; article II). This thesis also takes on board the Rogerian (1959, 1961) person-centred philosophy by exploring mental health in terms of profiles based on continuums of well-being and mental health among adolescents, rather than as a single continuum ranging from high to low mental health symptoms. Instead, mental health is considered a complicated process differentially related to well-being (article IV). Adolescent sense of self as suggested by the Personal Growth Process model (PGP; article II) comprises self-awareness, self-compassion and authenticity (article V), all of which have separately been shown to be important self-processes for adolescent well-being (Neff & McGehee, 2010; Ciarrochi et al., 2011; Thomaes et al., 2017). My colleagues and I looked into how these processes are interlinked.

Definitions of main concepts in this thesis

Before delving into the theoretical background of this thesis, I will define the main concepts used: *well-being, mental health,* and *personal growth*. A more thorough discussion of well-being and personal growth will follow in the coming chapters. Well-being, in the context of this thesis, is a multidimensional concept comprising aspects of *hedonia* (affective and cognitive well-being), such as life satisfaction, and *eudaimonia* (higher psychological functioning), such as authenticity, autonomy, positive relationships, self-acceptance, existential courage (Huta & Waterman, 2014; articles I and II), and harmony (Kjell et al., 2015). Such psychological capacities are found, for instance, in the Personal Growth Process model (article II), including self-awareness, openness towards experience and change, autonomy, existential courage, responsibility, self-compassion, compassion, authenticity, life-satisfaction and harmony.

Mental health is understood here according to the dual-process framework (e.g. Suldo & Schaffer, 2008) whereby mental health is not only the absence of mental health symptoms, but also the presence of well-being. Therefore, high mental health is understood as the absence of major psychopathological symptoms such as depression, anxiety and excessive stress, and the presence of psychological indicators of well-being, such as life satisfaction, harmony, authenticity, autonomy, openness to experience and change, and existential courage. A similar definition is also endorsed by public health agencies such as the World Health Organization (2022) and Folkhälsomyndigheten (2022).

Finally, personal growth is understood in the same way as defined in article II as the '*holistic, dynamic process of gradual, well-being enhancing psychosocial change*'. In other words, personal growth is the process of growth of well-being capacities over time.

Theoretical framework

1. Positive and Humanistic Psychology

The rise of positive psychology over the past few decades is indicative of an increasing interest in understanding optimal human functioning and well-being (Carr, 2004; Seligman, 2011). Positive psychology—the sub-field of psychological sciences that deals with positive mental health—arose as a reaction to the prevailing focus of psychology on deficits (Seligman & Csikszentmihalyi, 2000). According to the seminal address by Seligman and Csikszentmihalyi (2000), since World War II the focus of psychology had been on curing mental illness; the mission of understanding human well-being and potential had largely been neglected. The field of positive psychology addressed this shortcoming, not by replacing inquiry into disorder, but by complementing it. Positive psychology is the study of optimal human functioning, well-being, strengths, positive experiences, positive institutions, and interventions for enhancing individuals' well-being (Seligman & Csikszentmihalyi, 2000).

Positive psychology is a rather new discipline, only in its second decade—it was founded back in the year 1998 by Seligman and its seminal paper was written in 2000 by Seligman and Csikszentmihalyi. Even so, the area is ripe with theories, constructs, and ideas, some of which originate from earlier decades, such as the work on attachment (Bowlby, 1979; Ainsworth, 1979), self-determination theory (Ryan & Deci, 2000; Ryan & Deci, 2018), self-efficacy (Bandura, 1977), or even the work of humanistic psychology mainly between about the 1940s to the 1960s. As will be discussed in detail later on, positive psychology has been progressing through developmental stages, or 'waves', wherein inquiry into optimal human experience has begun to focus on darker emotions, suffering, existential considerations, more interdisciplinary influences, systems theory, and cross-cultural considerations (see Lomas et al., 2021; Wong, 2011; Kern et al., 2020). The field of positive psychology is itself undergoing growth process, much like one of the main topics of this thesis.

Humanistic psychology, which is also central to this thesis, was a pioneering approach to human well-being emerging some decades before positive psychology, back in the middle of the 20th century. Humanistic psychology, like positive psychology, aims to study the constituents of the good life, i.e. individual and societal well-being and functioning. The humanistic approach arose as a reaction to

the then-prevailing approaches of psychoanalysis (e.g. Freud) and behaviourism (e.g. Watson, Skinner), which looked at people as fundamentally full of evil or neurotic impulses and sexual deviance, or as determined by their past experiences in childhood or current environments (Glassman & Hadad, 2013). By contrast, the humanistic psychologists saw human nature as inherently prosocial (unless they encountered environments and conditions of worth that deter them from this proclivity) and considered people having the capacity for autonomy, i.e. free will. Humanistic psychology was called the 'third force' of psychology because of its emphasis on human functionality instead of dysfunction. An important aspect of humanistic psychology is its holistic approach – human beings are approached as a whole and their subjective experiences are given central stage (Glassman & Hadad, 2013).

Of particular importance for this thesis is a theory originating from the humanistic psychology tradition – the organismic valuing process (OVP). The OVP is a theory of how well-being grows in a person and was based on Carl Rogers' (1961) observations of growth processes he witnessed in psychotherapy sessions throughout his career (Maurer & Daukantaitė, 2020). One of the aims of this thesis is to operationalize this process into a model of personal growth while integrating it with the concepts of positive psychology. The Personal Growth Process model (PGP; see article II) was based on the OVP theory.

Some assumptions of humanistic psychology and my take on them

The theories and research of humanistic psychology were strongly based on certain assumptions, some of which I explore briefly to clarify the basic ontologies of the humanistic field. With respect to the transparency of this thesis and the research within it, I will also clarify how I position myself in line with each assumption.

1. *Human nature is fundamentally good*

One of the basic tenants of the humanistic psychology thinking is that human nature is prosocial and positive, and that people are 'born good'. The opposite view prevailed in psychoanalysis – that people have many 'bad' impulses that need to be controlled. My view leans more towards the 'human nature is fundamentally good' side of the argument, in particular following Hegel's (1812: in Lomas & Ivzan, 2016) process. According to Hegel, the development of ideas undergoes a process of 'thesis-antithesis-synthesis'. With dichotomous questions – good vs. bad, positive vs. negative, light vs. dark, etc. – neither of the extremes in the argument are without their criticisms; the answer lies somewhere in between (Lomas & Ivzan, 2016). Thesis refers to the pioneering argument, say 'human nature is bad'. While this thesis may prevail for some time, it will ultimately encounter criticism, eventually giving rise to the antithesis – the counterargument, i.e. 'human nature is good' (humanistic psychology). The antithesis likewise has its moment to prevail,

before encountering criticism and leading to a 'synthesis' of the approaches, providing a more nuanced view of the phenomenon (Lomas & Ivzan, 2016). My view on the matter of whether humans are fundamentally good is in the synthesis stage – human nature is neither 'good' nor 'bad' in its pure meaning, but rather fundamentally neutral and can be influenced by the environments that people encounter (see a similar argument in Lomas & Ivzan, 2016). Nevertheless, I lean toward the 'human nature is good' end of the spectrum much more and it shows in my research – I believe that prosocial tendencies are much more likely to be revealed in developmentally nurturing environments.

2. *We have free will*

The second, fundamental, assumption of humanistic psychology is that free will is real. This argument likewise arose as a reaction to the prevailing view within psychology at the time – determinism, i.e. that our actions are wholly determined by our genetic makeup, past experiences (such as childhood trauma), or our environments. In psychoanalysis, for instance, human behavior was seen as determined by innate, unconscious drives that are out of our control – therefore, the individual was seen almost like a puppet at the mercy of these innate forces (Glassman & Hadad, 2013). Humanistic psychologists rejected this notion, emphasizing instead the autonomy of the individual in making decisions in their lives (Glassman & Hadad, 2013).

I side with the authors Sheldon and Martela (2021) in their theoretical proposal and discussion of free will. According to Sheldon and Martela (2021), free will is real, given the consideration that people's capacity to make decisions follows the requirements for free will suggested by List (2019), namely, 1) one is able to imagine and evaluate alternatives to a behavior, 2) one is able to make a choice among the options and 3) one is able to enact the chosen behavior. Sheldon and Martela (2021) furthermore discuss the notion that free will exists even though the world and the constituents of the person can behave deterministically. At the most fundamental levels of a system, such as the biological level, molecules and cells may behave in a deterministic manner. However, at a higher level of the system there can be emergent properties – according to Sheldon and Martela (2021), free will is an emergent property of the mind. This logic follows the laws of thermodynamics, which also explain that emergent properties arise at higher levels of a system and that systems are not reducible to their most basic constituent elements.

3. There is an organismic nature to people – we grow towards integration

The third assumption of humanistic psychology is that there is an organismic basis to the human being and they have a tendency towards growth. Having an organismic basis means that the individual is naturally motivated to enhance their potential and to grow – that is, they have an actualizing tendency. This assumption is likewise the

basis of another prominent well-being and motivation theory, the self-determination theory (SDT: Ryan & Deci, 2000; Ryan & Deci, 2018). While the growth tendency is considered natural, it is not automatic, requiring support and nurturing by a favourable social environment that fulfils certain growth-promoting needs. According to Rogers (1961), such needs were empathy, unconditional positive regard and genuineness in the helping climate, such as between a mother and a child, a client and a therapist, or students and their teacher. Maslow (1962) later emphasized that the growth towards self-transcendence (the ultimate point of growth in which one transcends the ego and becomes more harmonious with the world: Kaufman, 2020) requires the fulfilment of certain needs. His 'hierarchy of needs' is a well-known theory of motivation and growth, starting from the satisfaction of physiological needs (nutrition, sleep, shelter) to safety needs (security, health, property) to love and belonging needs (friendship, intimacy) to esteem needs (self-esteem, recognition, freedom) and finally self-actualization needs (fulfilment of one's highest potential) (Maslow, 1962; Kaufman, 2020). More recently, Kaufman (2020) updated this hierarchy of needs and shifted its metaphor from that of the pyramid to a boat, emphasizing that the needs do not have to be fulfilled in succession and stages, rather they work dynamically.

This thesis is based on the metatheory of organismic theory (Overton, 1984), one of the main assumptions of which is that living organisms have a natural tendency for growth and greater organization. What I suggest personal growth to be is the growth towards integration of self (i.e. authenticity), as well as harmony and life-satisfaction. Therefore, I endorse this assumption.

4. & 5. The subjective nature of the individual – their phenomenology – is the most central and rejection of positivist methodology

The two final assumptions are discussed together since they represent similar considerations. I largely reject both assumptions, considering that I side closer with positive psychology, methodologically, at this point in my development as a researcher. First, humanistic psychology largely embraces a phenomenological approach, i.e. pursuing a deeper understanding of and description of the subjective experience. The subjective experience is central to understanding the complex experiences and meanings that an individual holds of the world and of themselves, according to humanistic psychologists (Glassman & Hadad, 2013). For instance, a large part of the research done by Carl Rogers (central to this thesis) focused on exploring the subjective expressions of experiences of his clients during person-centred psychotherapy. In other areas of psychology, such as psychoanalysis and behaviorism, subjective experiences had no real value. Glassman and Hadad (2013) discuss that, according to psychoanalysis, experience is not directly relevant because actual experience and its meaning is largely unconscious and subject to distortions and defences. By contrast, behaviorists thought that people's experience is irrelevant – only behavior in response to environmental stimuli is relevant

(Glassman & Hadad, 2013). While these approaches have changed over time as new evidence emerges, psychology – including positive psychology – is still largely governed by the ontological and epistemological assumptions of empirical realism: namely, that there is an objective reality that can be observed through objective means through rigorous study designs (experimental design) and quantitative analysis (Guyon et al., 2018), requiring the researcher to remain an objective, distant observer of the phenomena. In this way, positive psychology uses the ontology and epistemology of the natural sciences.

This thesis, by contrast, follows the ontological and epistemological assumptions of the realist-pragmatic tradition put forth in the argument by Guyon et al. (2018): psychological phenomena do not exist independently of our perception of them, but they still do reflect reality to some extent. The ontology is therefore realist, but the epistemology is pragmatist. In other words, our knowledge of objective reality is *pragmatic*, a position between empirical realism and constructivism that asserts that we cannot escape our practical (and therefore subjective) attempts at defining and understanding psychological phenomena, but there still exist psychological phenomena 'out there' in reality. While we may not be able to reach that reality in 'purely objective' ways due to our pragmatic (and somewhat subjective) attempts at approaching such phenomena, this does not mean that these phenomena are not real (see Guyon et al., 2018). Therefore, a pragmatic-realist position captures the 'best of both worlds' of empirical realism and constructivism without claiming a strong position on either. An in-between position in most matters seems closer to the truth.

A brief look into the separation and gradual integration of positive psychology from its humanistic predecessor

When the pioneer and father-figure of positive psychology, Martin Seligman, became the President of the American Psychological Association in 1998, in his Presential Address he introduced positive psychology as a new approach in psychology (Froh, 2004). In their seminal paper, Seligman and Csikszentmihalyi (2000) emphasized that positive psychology was to be seen as separate from humanistic psychology, stating that 'Unfortunately, humanistic psychology did not attract much of a cumulative empirical base' (2000, p. 7). There was a clear rejection of positive psychology being associated with humanistic psychology (e.g. Froh, 2004; Friedman, 2008). Taylor (2001) responded to this criticism by saying that in fact humanistic psychology did have a research base – it was just not based in the positivist ontology that positive psychology had embraced, instead being based in phenomenology and qualitative methods. Therefore, the debate between positive and humanistic psychology can be largely seen as a conflict between ontological and methodological perspectives (see Froh, 2004; Friedman, 2008).

However, clear attempts at integrating the fields of positive and humanistic psychology have been made. For instance, Joseph and Linley (2005) related Rogers' theories to various positive psychology constructs, such as by linking the concept of post-traumatic growth with Rogers' organismic valuing process (OVP, discussed further ahead). Wood et al. (2008) also developed the concept of 'authentic personality' based on the OVP. Patterson and Joseph (2006) operationalized the concept of unconditional positive self-regard from Rogers' theory to be used by mainly positive psychologists. Furthermore, Wong (2014) has focused on bringing back the work of Viktor Frankl (an existential-phenomenological psychologist who is often considered humanistic), positing that an existential approach is needed for positive psychology. Based on Frankl's work, Wong (e.g. 2021; Wong et al., 2022) created multiple approaches to well-being such as the self-transcendence model of servant leaderships (Wong et al., 2022), and Existential Positive Psychology (Wong, 2020). Recently, Kaufman (2020) revisited Maslow's hierarchy of needs and reorganized the theory into a new version called the New Integrated Hierarchy of Needs in his book *Transcend* (2020). He discussed a multitude of research mainly from the field of positive psychology in support of and in relation to this humanistic theory.

In my own work, I attempt to integrate these two fields by connecting the OVP theory (discussed next, in part 2) with positive psychology. Particularly, I propose that the OVP can serve as a metatheory for well-being research and explicate the process of personal growth through an empirical model combining concepts from both positive and humanistic psychology.

The developmental waves of positive psychology

Positive psychology has been developing in waves (Lomas et al., 2021; Lomas, 2022). The wave metaphor emphasizes that the progress of the scientific field advances dynamically, with each new wave distinct but overlapping and deeply connected to its forerunning and successive waves, or as Lomas et al. (2021, p. 660) said 'each wave [takes] its own shape while still drawing from the same deep ocean'. The positive psychology waves have also progressed through the Hegelian (as cited in Lomas et al., 2021) thesis-antithesis-synthesis process. According to Lomas et al. (2021), the thesis of psychology that positive psychology challenged was the prevailing focus on dysfunction ('what is wrong with people', including mental health symptoms and developmental problems). Positive psychology's antithesis was 'what is good with people', focusing on well-being and good mental health. Subsequent waves within positive psychology have led to a synthesis of these two perspectives, taking into account the well-being benefits of negative emotions and experiences, trauma, suffering, etc.

The divide between positive and humanistic psychology, emphasized during the 'first wave' of positive psychology, has been gradually diminishing with each wave,

as different perspectives, questions, cultures, ontologies and methodologies are included into the field (see this argument in Lomas et al., 2021). The first wave of positive psychology was firmly based in 'traditional' psychology, distinguishing itself from the emphasis and approach on human deficit to focus instead on human strengths. Much of the defining research and theories in the field emerged during the first decade of positive psychology, such as authentic happiness theory and approaches to happiness (Seligman, 2002) later augmented by the PERMA theory of well-being (Seligman, 2011), Fredrickson's (2001, 2004) Broaden-and-Build Theory of positive emotions, the ten positive emotions (Fredrickson, 2009), and Luybomirsky's model of sustainable well-being (Luybomirsky et al., 2005), among others (see part 3 for more on these theories). The emphasis during the first wave of positive psychology was, and is, to ameliorate the picture of human functioning to include not just the deficit approach but also the strengths-approach, as well as to build positive institutions in which well-being could be promoted in practise, such as schools and workplaces. The definition of 'positive is important particularly for this first wave. According to Pawelski (2016), a phenomenon is positive when it is preferred over another outcome, is more globally relevant (to more people), lasts longer, has positive ripple effects, and is scalable to more contexts. The emphasis in positive psychology was that 'positive is positive' – that positive emotions, states, attitudes, institutions etc. are desirable and conducive to well-being (see Lomas & Ivtzan, 2016; Lomas et al., 2020).

The second wave of positive psychology arose from criticisms of the first wave centring on this point – namely, that 'positive' emotions and states are not always conducive to well-being. Rather, in some cases, positivity – such as unrealistic optimism – can backfire and lead to harmful risk behaviors (e.g. Weinstein et al., 2005). Similarly, negative emotions and states can sometimes be relevant and conducive to well-being, such as realistic pessimism or anxiety that comes along with meaningful goal pursuits (see Kashdan & Biswas-Diener, 2014; Lomas & Ivtzan, 2016). Kashdan and Biswas-Diener (2014) wrote about the functionality and importance of the dark emotions in their book *The upside of your dark side* (2014), wanting to point out that negativity is not as straightforwardly 'bad' as was the prevailing sentiment in positive psychology. Instead, all emotions have their adaptive functions in certain circumstances and help us navigate complex social situations with appropriate responses (Kashdan & Biswas-Diener, 2014). For instance, Kashdan and Biswas-Diener (2014) discuss how anger is not a good or bad emotion, rather it is important what one does with it. Anger does not necessarily, or even very often, lead to overt aggression. Anger may arise when we encounter something we perceive as wrong or unfair in a situation. Therefore, anger signals to us that our values and principles have been violated (Kashdan & Biswas-Diener, 2014). Furthermore, Kashdan and Biswas-Diener (2014) discuss how anger can in fact fuel creativity, enhance performance, and help fuel action against unfair threats (and in this way promote prosociality). The experience of guilt, as another example, is a highly moral emotion that helps us understand when we may have violated some

moral question and orient us toward more socially sensitive and caring behaviour in the future (Kashdan & Biswas-Diener, 2014). Furthermore, Lomas (2018) discusses the importance of sadness to our functioning and even well-being. Sadness has three main functions: 1) protection, i.e. warning us against adversities, prompting disengagement, and enhancing conservation and accuracy of judgment; 2) expression of care, including longing for loved ones and manifesting love, care, and compassion; and 3) a vehicle for flourishing, i.e. promoting psychological development, moral and aesthetic sensibility, and flourishing.

One of the pioneers of the second wave is Paul Wong (2011), who wanted the field to explore existential considerations, negative emotions, and the experience of suffering (including finding meaning in suffering). Wong (2011), who called the second wave 'positive psychology 2.0' (Wong, 2011), in particular wanted to emphasize the dialectical nature of well-being. Dialectics refers to the concept of opposites that are fundamentally dependent or in relationship to each other, such as good and bad, or in this case positive and negative (Wong, 2011; Lomas & Ivtzan, 2016). Wong's (2011) approach is fundamentally influenced by the work of Viktor Frankl, and existential-phenomenological psychologist prevalent from about the 1940s–1950s era. Frankl is mostly known for his approach to psychotherapy, called logotherapy, a meaning-based existential psychotherapy in which the client is aided in seeking and finding a sense of purpose and meaning in life.

The third wave of positive psychology was discussed by Lomas et al. (2021) who suggest that positive psychology needs to move towards the inclusion of complexity in its theories. In other words, positive psychology should be more open to different ontologies and epistemologies, methods, and cultures, as well as embrace interdisciplinary work and a systems approach (in which an individual's social surroundings and embeddedness in social relationships and culture takes central stage, rather than the individual themselves). The third wave specifically focuses on 1) broadening the scope from the individual to the social and contextual (also cultural and ethical) and 2) broadening methodologies to qualitative and mixed-methods. Broadening the scope includes consideration of contextual approaches (looking into the various environmental context factors that contribute to well-being, such as in families, therapy, schools, workplaces), systems-informed approaches (incorporating theories and understanding from systems sciences, which looks into complex phenomena as systems that exist in hierarchies; e.g. Kern et al., 2020; Ladyman et al., 2013), cultural and linguistic approaches (inclusion of more language and cultural groups and influences into the research field, which is commonly very Western-centered), and ethical approaches (more theory on the underlying ethics of positive psychology to be a foundation upon which more ethically sound research and practice can be built). The broadening of methodologies refers to inclusion of different ways of knowing, including qualitative and mixed methods; implicit approaches (methodologies that are beyond self-report and tap into people's implicit cognitions); and computational approaches

(using big data, such as social media data) (Lomas et al., 2021). Therefore, the third wave of PP can be seen as truly widening the perspectives and scope of the field, welcoming new ideas, different viewpoints and voices, multiple ways of knowing and looking at the systems in which individuals exist more broadly.

With the developments of the field of positive psychology, more collaboration between positive and humanistic psychology has been happening (e.g. Kaufman, 2020). This thesis is among those developments, and it is therefore suggested to be placed mainly in the third wave of positive psychology. Next, I turn towards the main theoretical framework of this thesis, Carl Rogers's (1959, 1961) theory of therapeutic change and personal growth – the OVP. I also discuss how the Personal Growth Process model emerged from this theory.

2. Carl Rogers' theory of therapeutic change for well-being

The organismic valuing process (OVP) is based on the idea that each individual has a natural proclivity for greater personal growth, an actualizing tendency, as long as the individual is willing to engage with their growth and as long as the social environment supports growth instead of stifling it (Rogers, 1961). Personal growth, while a natural process, is not a necessary change process, meaning that not everyone is engaged with their personal growth – rather, many individuals can be very much removed from their organismic valuing processing and remain distant from the self.

The theory points out the fundamental importance of an individual's social environment – each personal relationship and social environment the individual encounters can be either growth-enhancing, neutral, or growth-stifling (Rogers, 1961). This suggests a profound social responsibility to promote a growth-enhancing social climate wherever and whenever an individual's personal growth is of value (Joseph, 2021). Such situations are plentiful, such as friendships, relationships between caregivers and a child, teacher-student relationships, therapy situations, workplaces, coaching situations, etc. – essentially, in any situation where social relationships are relevant. Therefore, the implications the theory holds for society (and our functioning within it) are vast.

Rogers (1959, 1961, 1964), a pioneer within humanistic and person-centred psychology, located this theory of growth in the context of successful therapy. Rogers (1959, 1961, 1964) described the cognitive and emotional processes that he had observed people undergo when they gained a greater connection with themselves and went through great leaps in personal growth towards becoming fully functioning persons. According to this OVP (Rogers, 1959, 1961), growth (both physical maturation and psychological growth) is a natural biological process. The individual is seen as naturally motivated to enhance their growth towards greater psychological and social functioning, with each person being organismically capable of knowing what is good for their growth – their body signals what it needs and what it values at any given time. As far as the individual can be tuned in with this knowing, they can engage with their organismic valuing process. 'Organismic' refers to the process being embodied, and 'valuing' refers to the embodied experience gearing towards the values it needs. Both could also be conceptualized as needs, which Rogers (1961) viewed as dynamic processes rather than as static qualities.

Rogers (1961) believed that the OVP is the natural growth tendency of the individual, one which aids the person in developing towards their best selves. However, often the connection to the OVP is lost throughout life, such that the individual no longer feels like they are in touch with their own 'inner compass' and

may become alienated from their experiencing and inner signals of right and wrong. This alienation is usually the result of internalization of external values and demands on the self, as well as the reception of conditional positive regard, or imposed conditions for the self to be accepted. The personal growth process, according to Rogers (1961, 1964), is the act of regaining connection to the self. Such a process of regaining connection first leads towards a greater sense of congruence (i.e. authenticity), which is a sense of integration between the inner and outer stimuli of the individual (i.e. inner thoughts, feelings, beliefs are in conscious awareness and in line with one's voluntary actions). Congruence could be connected closely with the concept of integration, i.e. the coming together of differentiated elements to function as a whole (Siegel, 2011; Kaufman, 2020). Siegel (2011) considers the most important process for well-being and optimal mental health to be integration. Similarly, Kaufman (2020) considers integration to be the way in which self-transcendence can be defined. Integration is closely related to congruence, and one could even argue that Rogers was really discussing integration with his concept of congruence. Furthermore, the personal growth process results in a greater sense of freedom from outside demands and conditions, greater sense of internal locus of control, greater openness to experience, greater existential courage, greater ability to be in the growth process, and ultimately greater connection to the rest of humanity and towards the world at large with harmony (Rogers, 1959, 1961, 1964).

Rogers (1961, 1964) emphasized how the growth towards well-being is an embodied experience in which the organism learns to live in an authentic connection with their inner communication and gain autonomy with their actions, becoming more self-driven and intrinsically motivated. An individual in touch with the OVP is capable of being open to their experiencing, of recognizing and analysing their own construals of the world and can better accept conflicts in experience and is open to change. Such a process takes oneself closer to self-awareness and away from rigid patterns of thoughts and behaviours that stifle open communication with the self and others. The person also learns to bring their implicit beliefs to awareness and understand the external pressures (conditions of worth) that may have been internalized as a part of their working mental models of the world and themselves. They may learn to sense whether such beliefs are truly actualizing their authentic growth process, or whether they stand in the way of growth. Ultimately, the process of growth can open oneself up to hold the well-being and interconnectedness of other beings and the world in high regard, realizing that one has a responsibility towards others (Rogers, 1961, 1964).

Rogers's own model of therapeutic change

Rogers (1961) discussed his view of therapeutic change, which he based on his observations of his own psychotherapy sessions over many years. He emphasized the fluctuating and individualized (unique) nature of each encounter and each growth process. Nevertheless, there was still a coherence in the ways in which this process unfolded in individuals over time. Rogers (1961) emphasized that the process was long-term and slow, taking multiple years for certain mental shifts to occur. Fundamental to enabling and facilitating the change process was the quality of the interpersonal relationship between the client and therapist. Furthermore, while the process described here has 'stages', Rogers (1961) suggested that this process is actually rather chaotic – an individual may take many steps forwards and then regress, with clear stages never actually materializing.

Even so, according to Rogers (1961; Wilkins, 2016), the therapeutic change process occurs in certain steps along the way. These steps are roughly described in the following manner:

1) *The individual first resists change and may be defensive*: At this point, the client might not yet see a reason for self-reflection and does not necessarily want to look inwards to gain insight.

2) *The individual loosens up somewhat, lessening their rigidity and discussing events that are external to the self*: When the individual starts to reflect upon themselves and their lives, they tend to start with external events and things that are not personal or do not involve the self as a subject.

3) *The individual starts to talk about the self, but from a distance, as if they are an object:* Once the individual approaches themselves as directly involved in their stories, they tend to still show a distance to the self as if talking about someone else, not taking personal agency or responsibility. The self is seen as if from the outside.

4) *Gradually, the individual may start to discuss their feelings:* Over time, the individual starts to loosen up and involve themselves more in their stories, starting to talk about how they feel about events and their own viewpoints.

5) *The individual may become somewhat deeper when discussing feelings and shows signs of taking some personal responsibility over oneself:* The individual may start to show greater depth of insight into their own views of their stories. They may also come to realize more clearly which of the thoughts, beliefs, and values they live by are their own and which ones are due to externally placed demands. This may promote a desire to take responsibility for their own lives.

6) *The individual becomes more congruent (i.e. expressing their true feelings outwards and behaving according to their values) and shows acceptance of others more:* By this point, the individual is starting to put the pieces together, realizing which beliefs, values and thoughts are actualizing themselves, what is in line with themselves. They also realize which direction they want to take in life and feel a greater sense of agency. They also show signs of possible forgiveness of others and compassion for others (ability to take the perspective of others).

7) *Finally, the individual can be said to be a fully functioning person, who shows unconditional positive regard for the self and others* (Wilkins, 2016; Rogers, 1961): The individual, finally, becomes a person who can listen to themselves, understand themselves better, live and act according to their values, and accept conflict in experience. They are more open towards themselves and others. They have learned to accept themselves and other people more. They show compassion and a sense of harmony.

According to Rogers (1963), the fully functioning person is someone who:

1) *is open towards their experience*, i.e. the individual is capable of listening to themselves with openness and a mindful attitude, without judgment and categorization;

2) *lives with existential courage*, i.e. the individual is capable of living with courage facing different adversities and challenges head-on; and

3) *trusts their own organism*, i.e. their own experience, such that the individual senses a basic trust in themselves and believes that their own inner experience is a good guide for their actions.

With regards to this thesis, article II describes the process of operationalizing Rogers's (1959, 1961, 1964) description of therapeutic change into a personal growth model – the Personal Growth Process model (PGP). In the final model some creative freedoms were taken in organizing the subprocesses of personal growth in a different order than is explicated in the OVP (see article II). The initial process of operationalizing the OVP into the PGP has been summarized in the following table 1.

Table 1. Rogers' theory of therapeutic change operationalized for the PGP model

Stages of therapeutic change according to Rogers (1961)	Operationalization for the Personal Growth Process model
1) The individual first resists change and may be defensive	The basic condition needed for personal growth is the willingness to engage with growth. State prior to growth is self-distance and rigidity
2) The individual loosens up somewhat, lessening their rigidity and discussing events that are external to the self	Tentative beginning of self-awareness, and openness towards experiencing – the individual learns gradually to listen to themselves and understand their own experience, but first through distance
3) The individual starts to talk about the self, but from a distance, as if they are an object	Self-awareness, i.e. ability to connect to the self, understand one's mind and behavior, and understand one's role in one's own and others' lives, grows slowly. The process of self-awareness takes a long time to unfold
4) Gradually the individual may start to discuss their feelings	Self-awareness grows and openness towards one's experiencing is likewise growing. One is connecting to themselves and gains in genuineness. One accesses their feelings better (i.e. openness towards experiencing)
5) The individual may become somewhat deeper when discussing feelings and shows signs of taking some personal responsibility over oneself	Self-awareness, openness towards experiencing and change, autonomy and personal responsibility all seem to grow in parallel. Autonomy in the sense that the individual is more capable of differentiating between demands that stem from themselves with demands from the outside
6) The individual becomes more congruent (i.e. expressing their true feelings outwards and behaving according to their values) and shows acceptance of others more	Processes of the integration of self (authenticity), self-awareness, autonomy and compassion are all growing in parallel.
7) Finally, the individual can be said to be a fully functioning person, who shows unconditional positive regard for the self and others	The individual has gained greater capacity for self-compassion, compassion for others, harmony and well-being. They are open to their experiencing and change, have existential courage, autonomy, responsibility, and trust in themselves.

Summary about the connection to Positive Psychology

I argue that the mental shifts described in the OVP model can be translated into positive psychological language. In other words, the constructs within positive psychology are arguably very closely linked with those of the OVP model and can be therefore used to operationalize those mental shifts. In article I of this thesis, we argue for this connection (Maurer & Daukantaitė, 2020). Taken together, the personal growth process progresses from micro-level phenomena (emotions and cognitions) towards meso-level (relationships, and other people) and event macro-level ones (society and the world), much in line with the LIFE model suggested by Lomas et al. (2015). The fully functioning individual is someone who is able to be in harmony with the world and with themselves. Being fully functioning is very similar to what Kaufman (2020) recently defined as self-transcendence: 'Healthy transcendence is an emergent phenomenon resulting from the harmonious integration of one's whole self in the service of cultivating the good society' (Kaufman 2020, p. 217). That means that a fully functioning person is an integrated whole with a compassion for both the self and others and the world at large, capable of gearing towards meaningful action.

In summary, translating these changes into constructs within positive psychology, in a psychologically safe environment that can be ensured by meeting basic psychological needs (such as the self-determination theory's *relatedness, autonomy and competence*: Ryan & Deci, 2000, Deci & Ryan, 2000), a person gains greater *mindful awareness* and connects with their bodily reactions, emotions, and cognitions. In doing so, the person can more readily orient towards *intrinsically motivated* actions and goal-pursuits (see again self-determination theory; Ryan & Deci, 2000), becomes more open to change, manifesting a *growth mindset* (Dweck, 2006), after which they can better face life's adversities with more courage (e.g. *sisu,* Lahti, 2019), learn to better accept the self with greater *self-compassion* (Neff, 2011), and show *compassion* and *benevolence* (Martela & Ryan, 2016) towards other beings. Finally, they become more *authentic* (or congruent; authenticity as defined by Wood et al., 2008) and gain a greater capacity for *well-being* and *harmony* (Kjell, Daukantaitė, Hefferon, & Sikström, 2015; Ryff, 1989; Seligman, 2011).

Why is personal growth so relevant? Towards global civilization and becoming a global citizen

As discussed by Moilanen and Salonen (2022) the anthropocene (i.e. our time in history in which the human impact on the world is greater than natural impact) requires a new concept of what it means to be civilized, including social, societal and planetary concerns into the circle of concern. This is important considering the 'wicked problems' that we are facing as humanity, as a species on this planet –

climate change, depletion of natural resources, mass-extinction of species, and various economic and humane crises. Moilanen and Salonen (2022) discuss the concept of a 'planetary civilization' orientation, which includes concerns on three dimensions: 1) spatial (from local to global and planetary concerns), 2) temporal (from past to present and future), and 3) world-view (from human-focused to life-focused and ecosystem-focused). In other words, a planetary civilization orientation extends the circle of concern for a person to include within it all realms of existence that humans influence.

Moilanen and Salonen (2022) suggest that this new civilization orientation requires a person to adopt a worldview whereby not merely organic life is central, but also inorganic matter. This means that the person can understand that the entire planet is one interconnected system in which various processes are continually occurring with inorganic and organic matter influencing each other fundamentally. The human being is seen as a part of different ecosystems to which they are deeply connected. In such a worldview, the person sees individuals, things, and phenomena as interconnected. Furthermore, the person becomes more responsible for the whole system, understanding their own influence on the system and being accountable for that influence. The opposite of this, according to Moilanen and Salonen (2022), is mass consumption, which has become the current norm in the pursuit of well-being. Such habits or values, however, are not sustainable, and are a huge part of enabling the wicked problems of over-consumption, natural resource depletion and climate change. The planetary civilization orientation, the authors suggest, seeks to redefine what 'to be civilized' actually means.

According to Moilanen and Salonen (2022), planetary civilization includes various aspects and skills: 1) the ability to develop oneself within the framework of a given society and culture, such that one's personal development occurs within a larger framework and reflects more sustainable living; 2) the person becomes more autonomous in their thinking and moral decision-making, developing their personality independently; 3) cultivating versatile abilities for acquiring knowledge, making judgments and acting in an ethical way in various contexts; 4) awareness of the threats that the world and humanity are facing, and an ability to take action to ameliorate and solve such problems together with other people; 5) the ability to observe different phenomena, decisions and demands from various perspectives (i.e. time, global interconnectedness, concern for organic life and the inorganic); 6) ability to distance oneself from one's desires; and 7) ability to have political involvement and skills for democratic action.

The planetary civilization orientation is relevant to this thesis because it is strongly connected to the concept of well-being as personal growth – the process of growth is the process of growing in well-being, but it is also the process of extending one's realm of concern from the self and local contexts to the global and planetary ones. An individual grows towards understanding their own vast influence in the various systems in which they are embedded, including the whole system of existence.

Therefore, personal growth is both a process whereby the individual becomes more mature, wise, and highly integrated as a person (therefore have a greater capacity for well-being), but also more interconnected, concerned with and geared towards the wellness of the entire world. An individual high in personal growth is one who cares for the entire system of existence since they realize that their own existence is fundamentally embedded in this system.

The individuality and interconnectivity of personal growth

Becker and Marecek (2008) discuss at length the pervading bias of individualism in positive psychology. The image of the self-made, autonomous, and self-actualizing individual is at the heart of the discussion of human flourishing. The greatest good within positive psychology seems to be an autonomous individual making their own choices, choosing values that correspond to their desires, expressing their 'authentic self' and living according to a meaning they have set themselves (Becker & Marecek, 2008).

However, this image of the independently existing self-made man is an illusion, as Becker and Marecek (2008) discuss. They maintain that there exists no real authentic self that has free and self-determined choices, since all choices are truly made under multiple constraints under specific contexts. The self is not an isolated entity free from others; rather, it is a fundamentally cultural and social being that cannot be separated from its social and societal context.

In defining the PGP model, I considered it important to emphasize that personal growth, while highly individual, is very much influenced and enabled by the psychologically safe atmosphere provided by close or not-so-close others around the person. Therefore, the basic need at the heart of growth is suggested to be psychological safety provided by the individual's social surroundings. Furthermore, the PGP model is based on a systems-informed metatheory (Kern et al., 2020), which would suggest that individuals are embedded in multiple different systems of hierarchically complex levels, such as the family, workplace, society, culture, and world. Additionally, autonomy in the model is suggested to be an 'autonomy to' rather than 'autonomy from' others, meaning that it can exist alongside interdependence on other people. Therefore, the PGP model is not entirely individualistic, but rather concerned with the systems to which an individual belongs.

Reflections on authenticity/congruence: What is it? Is the ‘true self’ real?

Running throughout the personal growth literature is a concern with the ‘true self’ and authenticity – being the person that one *truly is* (i.e. Rogers, 1961). The personal growth process is often seen as one that takes an individual closer to this true self and the ability to live an authentic life. However, whether or not there really exists one ‘true self’ is a matter of debate (see e.g. Christy et al., 2019). Rogers (1961) himself discusses both that personal growth or therapeutic change is a process of becoming one’s true self, whereas in other parts he also mentions that a fixed view of the self is faulty, as one is in fact under a change and growth process throughout life.

Ryan and Deci (2018) propose that selfhood is a real phenomenon within the individual. For them, an individual is a complex system (i.e. the systems theory), and has self-organizing tendencies. A big part of the individual’s self-organization comes in the form of a selfhood, which manifests as an ordered way of relating to one’s environment – that is, there is some consistency and coherence in this relation (Ryan & Deci, 2018), which serves as the basis for a person’s individuality. When an individual fails in responding in such ordered ways, such as when they have multiple conflicting experiences and goals, they may face problems relating to their environment. Therefore, selfhood is a real phenomenon and may in a sense reflect a kind of ‘true self’ (Ryan & Deci, 2018).

However, other views also exist. Christy et al. (2019) discuss identity essentialism, the notion that all things are made out of essential qualities that can be used to define, categorize, and distinguish them. An example is the essence of gender – essentialism would say that the genders have essential qualities separating them from each other and by knowing which gender a person belongs to defines important characteristics of that person such as likes/dislikes, personalities, interests, and behaviour (Christy et al., 2019). In the same vein, Christy et al. (2019) discuss how identity essentialism gives rise to the notion of the ‘true self’, suggesting that one possesses inherent internal qualities that are true and authentic. The true self is prevalent in every discourse – advice such as ‘be who you really are’, ‘find yourself’, ‘being your real self’ (Christy et al., 2019) is common. The authenticity concept in positive psychology likewise may be seen as reflecting this kind of identity essentialism. However, when one looks closer into the writings of Rogers (1961), his opposition against to this essentialist notion is clear – while he may describe the growth process as ‘becoming that person that one really is’, he also describes that the mature person is one who accepts conflicts in experience and understands that one’s self is in continuous change and flux, not a fixed entity.

In the PGP model, I again turn towards a synthesis of these opposing views. While it is fully endorsed that selfhood and the notion of the self as subjectively experienced by the individual is ‘real’, there is also a fluidity and change inherent

in the self, particularly during the growth process. Therefore, the self is not completely fixed and it does not possess a fundamental essence during growth. However, often people do not engage with the growth process, remaining rigidly attached to their own notions of themselves; accordingly, they may experience an apparent stability of character. However, under the growth process, the self is complex, fluid and at times conflicting, not lending itself to neat categorization.

Early on in the personal growth process, when the individual is just starting to connect with the self, the act of self-categorization based on personality characteristics, strengths, etc. is a common step to better define the self in an attempt to 'understand the self'. However, as one grows further, one may gradually realize that the self does not lend itself to neat categories but is in reality an open process with complications and changes. Therefore, later on in the personal growth process, the individual may understand that they are in fact more open to their complex experiences as they occur in changing circumstances, and less inclined to try to categorize both the self and others. They come to understand that their 'true self' is a complex, nuanced, conflicting, changing, uncertain, and open process.

Accordingly, authenticity in the PGP model is defined as integration of self, meaning that authenticity is fundamentally an integrated state. In other words, the individual has low psychological entropy (i.e. a sense of uncertainty and chaos; Hirsh et al., 2012) in their experience of the self, feeling instead comfortable and 'whole'. Although integration refers to a sense of coherence and congruence in the self, whereby all aspects of the self appear to work in harmony, the individual may also simultaneously accept that the self is complicated, multifaceted, and changing. This suggests a subtle balance between integration and harmony in the self, while also allowing openness to experience and change.

Growth towards well-being or wisdom?

When developing the PGP model, I continually asked myself: What is personal growth? What does personal growth lead to? Because my research is primarily within the framework of positive psychology, well-being seems like the obvious choice for an 'end goal' for growth. However, when I asked this question to those around me, some considered 'wisdom' to be that goal. For this reason, I found it important to reflect briefly on this issue: does personal growth lead towards well-being or wisdom?

According to positive disintegration theory (Dabrowski, 1964), personal growth is not growth towards well-being, but a sense of integration. Dabrowski (1964) specifically notes that mental health problems are fundamental to the experience of growth, since growth necessarily includes entropy and disintegration, the break-up of stability and structures previously well-known and fixed. When something grows, its previous boundaries need to break to create something new. Growth,

according to Dabrowski (1964), inherently includes entropy or chaos. What is important to emphasize also in the PGP theory is that the 'opposite' of personal growth is by no means mental ill health, but rather it is a state of complete remoteness from one's experience, fixedness, and stability. The PGP theory does not consider negative emotions or mental health problems as barriers to the process of personal growth, rather they are seen as potential factors occurring throughout it, meaning that a person who is personally growing may and likely will experience various negative emotions, even to the point of psychopathology, along the way – however, not *necessarily* so.

Given this consideration, how can we define personal growth as 'a gradual, dynamic, *well-being enhancing* psychosocial change'? While I do not claim that psychopathology would be necessarily detrimental to the process of personal growth (it might be a part of the process, in some cases), it is still suggested that ultimately personal growth helps the individual in gaining and growing their capacities for greater well-being, such as greater self-awareness, autonomy, courage, social and individual responsibility, self-acceptance, compassion, sense of authenticity, life-satisfaction and harmony. All these capacities are growing during the personal growth process, even if the person experiences anxiety, depression, stress, or other mental health problems along the way. The experience of life is one of ebbs and flows and occasional chaos – personal growth is not easy sailing towards the calm waters of well-being, but a journey rocked by the occasional bout of rough weather and maybe even a storm or two.

I turn again to the metatheory behind the PGP model, the organismic theory, which suggests that individuals are geared towards the integration of their functions and higher wellness (Ryan & Deci, 2018). There exists in the individual a tendency for the differentiation and integration of functions, meaning that the individual grows simultaneously towards differentiation of their self-structure and well-being skills as well as the integration of these aspects to work coherently as a unit (Ryan & Deci, 2018). Considering this metatheoretical perspective, well-being seems like the obvious goal for personal growth.

Wisdom, on the other hand, is an elusive and a complex phenomenon that resists easy definition and study (much like personal growth). It is an ancient concept discussed across multiple traditions of philosophy, in many religions, and in other cultural sphere, just like personal growth. Wisdom is defined in a myriad of ways. Wisdom is often intertwined with the idea of the 'examined life', both referring to the growth of inner virtue (e.g. Kuntzmann & Baltes, 2005). In the VIA character strengths literature, wisdom is one of the virtue categories encompassing character strengths such as creativity, curiosity, love of learning and perspective – strengths that help in gathering and utilizing knowledge (Peterson & Seligman, 2004). However, the main ways in which wisdom is approached in psychology can be divided into three main categories:

1) *Wisdom as maturation in personality development* (Erikson, 1959; in Kuntzmann & Baltes, 2005). Here, wisdom is defined as the resolution of a series of conflicts of maturation, the final one of which is the inevitability of death (Erikson, 1959; In Kuntzmann & Baltes, 2005). For Erikson (1959; in Kuntzmann & Baltes, 2005), wisdom is defined as a person's ability to look at human phenomena and one's own life holistically, more detached than completely self-involved, and to transcend self-interest (Kuntzmann & Baltes, 2005).
2) *Wisdom as dialectic thinking*. According to thinkers such as Piaget (in Kuntzmann & Baltes, 2005), wisdom is a higher order cognitive thinking when the individual is capable of integrating different forms of knowing, holding opposing viewpoints simultaneously, understanding nuances in situations, and integration of motivation, cognition and emotion (Kuntzmann & Baltes, 2005).
3) *Wisdom as higher form of intelligence*. For Sternberg (in Kuntzmann & Baltes, 2005), wisdom is the utilization of our tacit knowledge (knowledge we have acquired through personal experience) of situations that enhance the well-being of not just the self, but of others and the larger social system. Therefore, wisdom is defined as the ability to enhance the common good of the larger system.

When it comes to the different definitions of wisdom, some similarities to personal growth can be seen. The emphasis on integration is the most obvious, whereby integration of functions is inherently the end-goal of personal growth, as well as how some researchers would define wisdom. According to Sternberg's (in Kuntzmann & Baltes, 2005) definition, wisdom is the ability to transcend self-interest and have the desire and ability to improve upon the common good, which is very much aligned with where the process of personal growth leads – to social responsibility, compassion, and care for the self as well as others and the whole world.

However, wisdom as defined as a maturational personality development would mean that it is the end-goal of maturation, not so much of personal growth (although the processes are related). I believe that wisdom entails integration and care for the common good as well as the ability to think holistically, all of which increase during personal growth. Therefore, wisdom could be linked to the personal growth process as well (although it is not explicitly a part of the model at present). Therefore, my answer to the question of whether personal growth leads towards well-being or wisdom – perhaps both, to some extent.

3. Well-being Theories

Adolescent mental health – a brief look

Before going into the theories of well-being of both adolescents and adults, it is good to consider what problem we are facing. Globally, adolescent mental health is a concern with one in every seven adolescents suffering from a mental health condition (WHO, 2021). Adolescent mental health problems account for 13% of the global burden of disease (WHO, 2021). Furthermore, the failure to address mental health early on, during adolescence, may have detrimental carry-over effects to adulthood (WHO, 2021; Roberts et al., 2021). Adolescents who suffer from a mental health condition are more likely to be subjected to social isolation and exclusion, stigma and discrimination as well as have difficulties in their education (WHO, 2021). In Sweden, the prevalence of psychosomatic problems among adolescents have been rising steadily over the decades, ranging from 20% in the 1980s to 40–55% in 2016 (Shierenbeck & Karlsson, 2018). Furthermore, the pandemic may have further detrimentally affected the mental health of adolescents (Prowse et al., 2021), although results from Sweden have not shown longitudinal impacts on student mental health (Chen et al., 2022).

Positive student mental health is comprised of both the absence of mental health disorders and the presence of well-being (Suldo, 2016; Suldo & Schaffer, 2008; WHO, 2021). While there is global concern over the prevalence of adolescent mental health (WHO, 2021), the majority of adolescents, luckily, are doing well with regards to their mental health, showing a simultaneous lack of symptoms and presence of well-being (Suldo, 2016).

Some approaches to well-being in positive psychology

Positive psychology has accumulated various theories of well-being over the decades since its inception. The most common distinction is that between hedonia and eudaimonia; however, there are also theories that synthesize these views and introduce ideas of flourishing, i.e. optimal well-being. Some of the key approaches are reviewed in this chapter.

Positive psychology approaches well-being theories mainly from two distinct (but interrelated) lines of inquiry: the hedonic approach and the eudaimonic approach (Huta & Waterman, 2014; Huta, 2022). These approaches are based on ancient Greek philosophies of the good life – some philosophers (e.g. Epicurus) considered that the good life happens with the pursuit of pleasure and avoidance of suffering (i.e. hedonic approach) whereas others (e.g. Aristotle) considered that a good life required virtuous action and following one's 'true daimon' i.e. being authentic. These two lines are still often separated in the literature with proponents for each,

although studies have shown that hedonia (affective and cognitive well-being) and eudaimonia (well-being resources) are highly interrelated concepts (Kashdan et al., 2008), with some researchers arguing that the distinction is arbitrary at best (Kashdan et al., 2008; Biswas-Diener et al., 2009). From a philosophical standpoint, the distinction is an interesting one.

Hedonia

Hedonic well-being refers to the presence of positive affectivity (or 'positive' emotions) and feeling highly satisfied with one's life. Therefore, hedonic well-being captures the more traditional concept of 'happiness' – high positivity. Therefore, negative affectivity (experiencing 'negative' emotions) undermines the hedonic concept of well-being. Commonly, hedonic well-being is operationalized by the subjective well-being concept by Diener et al. (1985; Diener, 1994), which consists of the levels of positive and negative affect, as well as a cognitive estimation of how satisfied one is with one's life. It is considered that people tend to have a certain natural emotional range, which they fall into, so that some people tend to be naturally higher on positive affectivity than do others (Diener, 1994; Carr, 2004). This is the assumption of the happiness set-point model (Lykken & Tellegen, 1996): despite fluctuations in one's level of happiness due to positive or negative events, the person will ultimately always return to a baseline level of happiness, with no lasting change in happiness being possible. However, some studies suggest that subjective well-being levels can be enhanced in the long-term (Tugade & Fredrickson, 2007) through positive emotional maintenance, which helps to offset the negativity bias in cognitive processing – negative events in our lives tend to gain a predominance in our attention, due to their functionality as a survival mechanism in evolutionary terms (see Baumeister et al., 2001; Fredrickson, 2001). Tugade and Fredrickson (2007) suggest that the rehearsal of positive emotion regulation, meaning that one is able to maintain a positive emotion for longer, is akin to physical exercise: much like a muscle that strengthens with exercise, through practice, it becomes easier to savor positive emotions.

Furthermore, Luybomirsky et al. (2005) suggest that people's level of subjective well-being is 50% determined by one's genes, 10% by one's external circumstances, and 40% by behavioral and motivational factors, i.e. one's volitional activity. According to their sustainable happiness model, well-being is a malleable factor prone to changes according to people's choices and effortful actions, giving more credence to the benefits of well-being interventions. In fact, Howell et al. (2015) showed that the way in which people represent the nature of well-being to be, i.e. whether they believe that well-being is a malleable trait that can be changed (incremental theory) or a determined trait that is not changeable (entity theory), strongly affected their well-being. People holding incremental theories had significantly higher levels of hedonic and eudaimonic well-being as well as tended to endorse more therapeutic lifestyle activities (exercise, recreation etc.).

In terms of measurement, hedonic well-being is commonly operationalized as subjective well-being (Diener, 2009). High subjective well-being is defined as high levels of life satisfaction (a positive cognitive estimation of one's life) and positive affect and low levels of negative affect – in other words, high positive affect and low 'negativity' (i.e. avoidance of suffering). Subjective well-being is called as such because it is typically measured using a self-reported estimation of one's level of well-being (e.g. 'how satisfied are you with your life?'). Satisfaction with one's life is measured using the life satisfaction scale (Diener et al., 1985), which is domain-independent, meaning that the individual can decide what they base their estimation of satisfaction on (is it reflecting on satisfaction with work, family life, friendships, emotional balance, achievements etc.) and the source cannot be deciphered by the researcher (see Kashdan et al., 2008).

One criticism with regards to the sustainability of subjective well-being is the so-called hedonic treadmill. The hedonic treadmill refers to the tendency for people to quickly adapt to hedonic states, returning to their baseline affectivity (see Diener, Lucas & Scollon, 2006). This means that the experience of positive affect (positive mood) is rather fleeting and is not likely to remain a sustainable source of well-being. Another point of criticism is the so-called 'negativity bias', meaning that we tend to take much more notice of the negative than the positive (Baumeister et al., 2001). This is natural, since our tendency to have a high alert response to any threats in the environment would have been evolutionarily adaptive for dealing with potential dangers, whereas high alert to positive things would not make much sense since positive events are not usually a matter of life or death (Baumeister et al., 2001; Luybomirsky, 2009). Naturally, then, we are much more likely to notice the negatives in our lives instead of the positives. This may be a problem, considering that we tend to have many more positive events in our daily lives than negative ones (Luybomirsky, 2009), as the positives are more likely to go unnoticed and thus undermine our subjective well-being.

Learning to savor positive states has been shown to combat this adaptation effect, as well as the negativity bias, and can help in building lasting levels of subjective well-being (see Jose et al., 2012). Likewise, Fredrickson's (2001) influential Broaden-and-Build theory of positive states explains that while negative emotions narrow our attention span and prepare us for flight-or-fight responses, positive emotions widen our thought-action repertoires by expanding our ability to make more holistic connections and lessen bias in processing (Fredrickson & Branigan, 2005; Johnson & Fredrickson, 2005). Positive emotions, according to Fredrickson (2001, 2004), build on each other and enhance our ability to bolster our resources and social connectivity, leading to a positive, upward spiral – the opposite of the negative, downward spiral associated with rumination on negative emotions. Other theories of emotion also exist, with affective states existing on a two-dimensional map of arousal and valence (e.g. Russel, 1980), rather than a unidimensional 'positive-negative' continuum.

While the sustainable happiness model discussed earlier has been greatly influential in positive psychology (Sheldon & Luybomirsky, 2021), it has also been heavily criticized (Brown & Rohrer, 2019). The well-known pie-chart of the percentages accounting for people's happiness have been questioned (Brown & Rohrer, 2019), and Sheldon and Luybomirsky (2021) recently admitted to having risked overestimating the influence of one's volitional activity on well-being. Given that the effect sizes of well-being interventions are usually very small (White et al., 2019), volitional activity may not account for as much as 40% of one's happiness levels (see Sheldon & Luybomirsky, 2021). Due to criticisms of the original sustainable happiness model, Sheldon and Luybomirsky (2021) further developed recent models regarding the sustainability of happiness: 1) the eudaimonic activity model, 2) the hedonic adaptation prevention model, and 3) the positive activity model.

The eudaimonic activity model (Martela & Sheldon, in press) combines the hedonic and eudaimonic well-being approaches and suggests that the pursuit of eudaimonic goals and activities (e.g. virtue, meaning, authenticity) induces higher levels of subjective well-being as a byproduct. This relationship between eudaimonic activities and subjective well-being is suggested to be mediated by the satisfaction of basic psychological needs according to Self-determination theory (Ryan & Deci, 2018). As for the hedonic adaptation prevention model (Sheldon & Luybomirsky, 2012), it suggests that people are capable of preventing the effects of 'hedonic adaptation' (i.e. getting quickly accustomed to and even bored by positive changes) by two routes: 1) a bottom-up route in which the person keeps interacting with the change in new ways to get a consistent positive boost (e.g. in marital relationships, engaging with one's spouse in different fun ways by coming up with date nights and other activities together); and 2) a top-down route in which the person knowingly decides to appreciate and savor the change, rather than take it for granted or compare it to something even better (Sheldon & Luybomirsky, 2021). Finally, the positive activity model (Layous & Luybomirsky, 2014) suggests that happiness can be pursued through engaging in positive activities in circumstances that are suited for the successful pursuit of happiness. The model suggests that the moderators to happiness pursuit are activity features (frequency, duration, variety), person features (effort, motivation, cultural influence), and the combination of the two features (i.e. person-activity fit – referring to how well the activity is suited to the likes, values and motives of the person). The mediators of the pursuit of happiness are more frequent positive emotions, positive thoughts, positive behaviors, and needs satisfaction.

Eudaimonia

Eudaimonic well-being consists of constructs that are 'psychologically deep', such as a sense of purpose in life, personal growth, authenticity, and having self-acceptance and positive interpersonal relationships (Linley et al., 2009; Huta & Waterman, 2014). Thus, eudaimonic well-being includes a wide range of concepts, more humanistic considerations, and explicates deeper inner resources of well-being (Huta & Waterman, 2014). The hedonic treadmill is not relevant for eudaimonic well-being, given that eudaimonia includes deeper psychological well-being rather than merely emotions (Deci & Ryan, 2008; Huta & Waterman, 2014). As such, eudaimonic well-being aspects may take longer to develop but may also be longer lasting inner resources that enhance resilience. Indeed, Wood and Joseph (2010) found that the level of psychological well-being was associated with seven-fold lower likelihood of having depression after ten years. Eudaimonic well-being, therefore, is not directly related to a person's positive or negative affectivity but entails a repertoire of inner resources. Aiding in the development of such resources early on, such as in schools, might therefore have long-term beneficial effects, preventing mental health problems and helping individuals face life fluctuations.

Discussion of hedonia and eudaimonia often take the form of discussion of the benefits of pleasure versus meaning. Bauer (2021) discusses how meaning in life is dependent on the context of meanings – in order for something to be meaningful it depends on the context in which the meaning emerges. However, pleasure in the hedonic camp is independent of context – pleasure is good despite the circumstances or context in which it arises (Bauer, 2021). Still, the experience of pleasure in a 'meaningful' context may be *eudaimonic*, contributing to the experience of meaning in life in general. The distinction between hedonia and eudaimonia in real life experiencing thus appears rather difficult (Bauer, 2021).

A common operationalization for eudaimonic well-being is psychological well-being, which includes the components of autonomy, environmental mastery, personal growth, purpose in life, self-acceptance, and positive relationships (Ryff, 1989; Ryff & Singer, 2008). These aspects are all resources for well-being and do not directly involve positive or negative affectivity. Autonomy refers to the ability to have volition and self-direction in one's activities, the ability also to reject social pressures and evaluate situations through one's own standards (Ryff, 1989; Ryff & Singer, 2008). Environmental mastery refers to the sense that one has high self-efficacy in mastering one's environment, such as the ability to seek out and create contexts that serve one's wishes and values or take advantage of opportunities and activities in one's environment. Personal growth refers to the sense of continuous growth and development as an individual, taking on new challenges and opportunities in life, facing challenges head-on, and having openness to new experiences (Ryff, 1989; Ryff & Singer, 2008). Purpose in life is related to the sense of meaningfulness in life, a sense of clear direction and the ability and willingness to set goals. Self-acceptance manifests as a warm attitude towards the self with

acceptance also of 'bad' qualities and an acceptance also of past life and experiences. Finally, positive relationships refer to the sense of having warm, trusting, and caring interpersonal relationships, high levels of empathy and care for others and an understanding of reciprocity of relationships (Ryff, 1989; Ryff & Singer, 2008).

Another well-known eudaimonic approach to well-being is Self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000, 2018), which is based on the OVP theory discussed in this thesis. Self-determination theory suggests that three basic needs have to be fulfilled for optimal human functioning, well-being and motivation: autonomy, competence and relatedness (Deci & Ryan, 2000). Autonomy refers to the individual's sense of freedom to act according to their own internal locus of control, to have abilities to make their own decisions without coercion and express their own desires and values without outside pressure (Ryan & Deci, 2018). Competence refers to the individual's sense of self-efficacy in what they are doing, a sense of ability and capacity in one's actions. Finally, relatedness refers to the feeling of belonging to a community or interpersonal relationship with a supportive atmosphere (Ryan & Deci, 2018). When these three needs are fulfilled, the individual can commonly engage with their activities with a sense of intrinsic (internal) motivation and have optimal well-being (Ryan & Deci, 2018).

Personal growth is commonly approached as just one aspect of eudaimonia within positive psychology. However, it belongs to more than just the eudaimonic camp – it is the process by which well-being develops.

Does well-being grow?

An essential question to address when considering personal growth is whether there is evidence that well-being in fact grows at all. There is some research suggesting that people's levels of subjective well-being and psychological well-being remain stable over time – for example, Springer et al. (2011) showed in their longitudinal investigation that people's levels of psychological well-being (Ryff, 1989) stayed approximately the same, with time-variation accounting for only 4% of the total variation in the data. They concluded that there are no age profiles for psychological well-being, with levels staying rather stable over time. Similarly, happiness set-point theory (e.g. Brickman et al., 1978) suggests that we all have our own natural range of happiness levels. Therefore, someone who is happier than another might just have a higher happiness set-point, i.e. a higher natural range of happiness. However, Luybomirsky et al. (2005) discuss how happiness is not merely influenced by the genetic happiness set-point, but also by current circumstances and one's voluntary actions, lending support for the idea that people can influence their own levels of happiness. Some studies suggest that generally subjective well-being shows a rather stable pattern over the course of one's life (Diener, 1994). However, there is evidence to suggest that people's subjective well-being levels can be enhanced and that they do

grow over time (see Diener et al., 2006; Tugade & Fredrickson, 2007). In fact, older adults often show higher subjective well-being than do younger adults, suggesting that there may be a tendency for the growth of well-being with age (see Bauer et al., 2010). Subjective well-being in Western countries actually tends to show a U-shaped curve over the lifespan (Stone et al., 2020), being higher in children, lower in young adults and higher again in older adults.

Furthermore, some studies have suggested that well-being levels may fluctuate during the life course in relation to, for example, life transitions, such as leaving home, getting married and having children (Johnson et al., 2021), adding further support to the idea that subjective well-being is not stable. Rees (2018) investigated how longitudinal changes in children's levels of subjective well-being were affected by historical factors (i.e. family and socioeconomic status at early age) as compared to current life circumstances. They found that, rather than family conditions at an early age, children's current life experiences (i.e. family and peer relationship quality) were associated with changes in levels of subjective well-being over a three-year period (between ages 11–15). Thus, levels of subjective well-being may fluctuate over time according to life experiences.

Further evidence, albeit more nuanced, comes from research on mental health profiles, which show stability in about 61–71% of people over a one-year period (Compton, 2016; Kelly et al., 2012; McMahan, 2012; Moore et al., 2019). However, there is little knowledge of life-course changes in mental health profiles, only changes over relatively short time periods. The greatest stability has been found within a complete mental health profile (high well-being, low symptoms), which is stable approximately 80–86% of the time over a two-year period, whereas the least stability has been shown among those with the symptomatic but content profile (high symptoms, high well-being), at approximately 52% (McMahan, 2012), and the troubled profile (high symptoms, low well-being), at 39% (Moore et al., 2019). Therefore, for many individuals, well-being changes over time. This suggests that while individuals who are high on well-being and mental health status might show relative stability of their levels of functioning over time, individuals who exhibit various mental health problems or lack of well-being may have more room to grow and develop over time. Furthermore, they may have also more need and willingness to enhance their well-being to lessen their own symptoms and potential suffering. However, even given the relative stability of the optimal mental health profiles over time, there may be qualitative changes in individuals' experiences of well-being and the self, which may not be captured using quantitative survey studies.

Therefore, the question of whether well-being changes over time is a tentative yes – people's mental health and well-being status do fluctuate at times, even though some researchers and theories suggest stability. This suggests that well-being changes may be harder to come by. According to the PGP model, people may not engage with the growth process at all, which may make well-being fluctuations fewer and far between.

Combining hedonia and eudaimonia: Keys' mental health continuum and mental health profiles

Even though hedonic and eudaimonic well-being are often discussed as separate, the concept of flourishing, i.e. optimal well-being, contains elements of both (Keyes, 2002). When one is highly balanced in both subjective and psychological well-being, they can be said to be flourishing. Keyes (2002) included yet another dimension for the flourishing individual, social well-being, which explicitly deals with aspects of social contribution (that you can somehow positively affect society or your social surroundings), social integration (that you belong to a social group), social growth (that the society is growing to be a better place for you), social coherence (society makes sense to you), and social acceptance (that you feel people are good). All these factors make well-being as inclusion in the surrounding social world. According to Keyes and Haidt (2010), to be considered 'flourishing', a person needs to exhibit almost daily aspects of emotional well-being and better functioning (psychological and social well-being).

Keyes's (2002) model of mental health is a dual factor model, representing mental health on a continuum from flourishing to languishing. The dual-factor model refers to the fact that Keyes (2002) defines mental health not solely as the absence of mental health problems, but also as the presence of well-being. Flourishing, as already mentioned, is the balance between emotional, psychological, and social well-being felt on a daily basis (Keyes & Haidt, 2010). Languishing is at the opposite end of the continuum to flourishing. It is considered to prevail once the individual has never or almost never felt emotional, psychological, or social well-being in the past month (Keyes & Haidt, 2010). Also, because Keyes' (2002; Keyes & Haidt, 2010) model is a dual-factor model, the co-occurrence of mental illness with flourishing is possible (Keyes, 2002).

Considering Keys and Haidt's (2010) study looking into adolescent mental health, around 6% of sampled adolescents are simultaneously flourishing but also have a mental health condition. Their risk of suicidal ideation is significantly lower than for those who have moderate mental health and simultaneous mental illness. The highest risk of suicide is found in the 3% of adolescents who are languishing and have simultaneous mental illness. Among students without mental ill health, suicidal tendencies are significantly lower overall, but still as high as 15% among adolescents who are languishing (Keyes, & Haidt, 2010).

In fact, dual-factor models of mental health can give a comprehensive picture of the types of mental health profiles that adolescents show (Keyes & Haidt, 2010; Suldo & Schaffer, 2008; Moore et al., 2019). Studies looking into dual-factor mental health have commonly found that there exists different mental health profiles among adolescents: complete mental health (low psychopathology, high well-being), moderate mental health (average to high well-being, average to low psychopathology), vulnerable (average well-being, average psychopathology),

symptomatic but content (average well-being, high psychopathology) and troubled (low well-being, high psychopathology; Moore et al., 2019; Suldo & Schaffer, 2008; Antaramian et al., 2010; Eklund et al., 2011). These profiles have been shown to exhibit different types of well-being functioning. The complete mental health profile shows the best outcomes, including higher life satisfaction, higher engagement in school, and higher satisfaction with close relationships (e.g. Suldo, 2016). The moderate mental health profile follows just behind. The symptomatic but content profile is interesting, since while they show elevated levels of psychopathology, they are simultaneously rather high on well-being such as life satisfaction; they also have higher relationship satisfaction than the vulnerable and troubled profiles (Suldo, 2016). The vulnerable profile, according to Suldo (2016), might be the most prone to developing mental health problems in the future since they do not have a buffer of high well-being to support their mental health. Finally, the troubled profile shows the worst-off mental health status with lower life satisfaction, less school engagement, and more resentment than the other profiles (Suldo, 2016).

It is interesting to view mental health and well-being as profiles, as one can see more nuance in the ways in which different patterns of mental health and well-being co-occur between different types of people. This is particularly important when trying to better understand the mental health of adolescents, as better grasping patterns of well-being and supportive and detrimental factors can aid in developing target interventions.

Another theory of flourishing: The PERMA model

There have also been other attempts to approach well-being as a synthesis of the hedonic and eudaimonic approaches. For instance, Seligman (2011) created his theory of well-being with a multidimensional approach called PERMA, since updated to be called PERMAH or PERMA-V (see Kern et al., 2021), which stands for the subcomponents of Positive emotions, Engagement, Positive Relationships, Meaning, Achievement and Vitality (or Health). According to Seligman (2011), the subcategories of the PERMA theory are what a healthy individual strives for autonomously in pursuit of well-being.

To briefly consider the aspects of the model, positive emotions encompass more than just joy, but also include emotions such as gratitude, serenity, interest, hope, pride, amusement, inspiration, awe, and love (Fredrickson, 2009). Engagement refers to one's passionate and sustained effort to pursue important activities (e.g. schoolwork, one's hobbies) and goals. A highly related concept to engagement is flow. Flow is an intensive state of deep absorption in an activity during which one loses a sense of self and time, so that hours may pass without much notice. Such states are deeply rewarding and related to higher well-being (Csikszentmihalyi, 1990). Flow can be reached particularly when one is doing something that is intrinsically motivating (Ryan & Deci, 2018). Positive relationships are another key

aspect of well-being. For young people especially, relationships with peers, teachers and family members are integral to overall well-being (Ross et al., 2020: Carr, 2004). Peer relationships are essential for the feeling of belonging and learning of social skills, social norms, and the formation of identity (Carr, 2004). Good relationships are characterized particularly by the presence of altruism (reciprocity), empathy, gratitude (i.e. thankfulness for the relationship and for the other person's good deeds) and high levels of interpersonal trust (Carr, 2004). Meaning can be experienced when one does something that reaches beyond oneself to help other people or the world in some ways, such as through acts of kindness (Hui et al, 2020). Meaning can help students in feeling like they have a direction and purpose in their lives and are not just drifting aimlessly. Meaning has been shown to be strongly related to life satisfaction, strong physical health, positive relationships, and protect against depression and risky behaviors (Cotton et al., 2009). Finally, the feeling of accomplishing one's tasks and reaching goals is rewarding. Positive accomplishment means that one can develop their best potentialities by striving for meaningful goals and being motivated in persisting in one's pursuits despite obstacles and challenges (Norrish et al., 2013).

PERMA theory is a general theory of well-being, meaning that certain aspects may not be developmentally appropriate wholly to adolescents. For this reason, Kern et al. (2016) translated the theory into an adolescent context, creating the EPOCH model of adolescent well-being.

The EPOCH model of adolescent well-being

EPOCH stands for engagement, perseverance, optimism, connectedness, and happiness, and is considered to include in it similar processes and outcomes for well-being as the PERMA model (Kern et al., 2016). Likewise, the EPOCH encompasses both hedonic and eudaimonic traditions of well-being. According to Kern et al. (2016), perseverance refers to the tenacity of pursuing towards one's goals without giving up; it can therefore be considered closely linked with the concept of grit, which is the passion and perseverance towards long-term goals (Duckworth et al., 2007; Duckworth, 2016). Optimism refers to a positive attributional style, whereby one attributes setbacks to non-self and local causes ('this is not my fault, and this is only related to this particular instance, therefore it will pass') and successes to self-related and global causes (i.e. 'I made this happen, and this will positively affect my life in general'; Seligman, 2006; Kern et al., 2016). Connectedness is related to the sense of intimate, close connections with important others, such as peers and teachers at school, or family members. Finally, happiness refers to the frequent experience of positive emotion such as joy and love of learning or love of life (Kern et al., 2016). Kern et al. (2016) suggest that these aspects are relevant for the high well-being of school-aged youth, considering that a multidimensional model in

which both eudaimonic and hedonic elements of well-being are considered is more comprehensive and relevant for adolescents' lives.

Other theories of adolescent well-being

Just like the EPOCH model discussed above, other models of adolescent well-being define adolescent well-being as a multidimensional phenomenon. For instance, Ross et al. (2020) provide a general framework for adolescent well-being – what aspects are relevant for a high well-being and functioning among adolescents and how to define adolescent well-being. According to Ross et al. (2020), well-being is when 'adolescents have the support, confidence, and resources to thrive in contexts of secure and healthy relationships, realizing their full potential and rights.' This definition, just like the ones previously discussed, suggests that adolescents need positive interpersonal relationships for support, among various other subjective (individual's own estimation of well-being) and objective (sociodemographic factors contributing to well-being) domains of resources. The specific domains are as follows:

1) **Health and nutrition**, including physical and mental health, good sources of nutrition and information, supportive and welcoming services, etc.;
2) **Connectedness, values and contribution to society**, including a sense of inclusion and that one is valued by supportive networks of peers and others, holding moral values, respect for others and responsibility, having social skills, and the ability to contribute to changes in one's own and community life;
3) **Safety and a supportive environment**, including social, emotional, and physical safety, protection from violence of all kinds, having material resources, equity and fair treatment, equality of opportunities, and nondiscrimination;
4) **Learning, skills, and competence**, or having an interest and motivation in continual learning, education, having necessary social and employability skills, creative skills, sense of self-efficacy and competence;
5) **Agency and resilience**, or having a sense of direction and being the source of direction in one's choices, being empowered to make meaningful choices, having a good sense of identity and a positive connection to oneself, a sense of purpose and optimism about the future, having resilience in face of adversity and a sense of fulfilment of one's potential.

The domains of Ross et al.'s (2020) framework clearly suggest that personal growth – the growth towards well-being and realizing one's full potential – is important for adolescents.

Another model of adolescent well-being that embraces both subjective and objective aspects is Soutter et al.'s (2014) Student Well-being Model (SWBM). This model also lists various resources necessary for well-being, summarized as *Having, Being, Relating, Feeling, Thinking, Functioning* and *Striving*. *Having* relates to both the material and immaterial resources available for the student, such as school-related desks, classrooms, books, or out-of-school housing, money etc., and the immaterial resources of, for instance, knowledge and skills, or a supportive teacher. *Being* refers to the students' sense of being able to be themselves freely without fear of ostracising, bullying or rejection by their peers and teachers (or outside of school connections). *Relating* follows along similar lines, whereby the student feels safe and secure in their relationships to peers, teachers, and others. The relationships are warm and caring. *Feeling* is related to the students' own well-being, amount of positive emotion and emotion regulation skills. *Thinking* is related to students' abilities to think in mindful, creative, and constructive ways, along with metacognitive skills. *Functioning* refers to the student's capacity to follow-through on assignments at school and perform tasks. Finally, *Striving* is related to the ability to pursue long-range and short-range goals and engage with a gritty attitude (Soutter et al., 2014). Therefore, Soutter et al.'s (2014) model includes in it cognitive, relational, as well as material resources as important for student well-being, and is therefore another comprehensive and multidimensional model of well-being among adolescents.

How the well-being theories have informed the thesis

The way in which well-being is approached in this thesis is a multidimensional approach, whereby both hedonia and eudaimonia are included. Personal growth, the growth of various well-being capacities, 'ends up' in the enhancement of multidimensional well-being: hedonia (life satisfaction), eudaimonia (authenticity) and the so-called 'secondary-control' aspect of well-being (harmony; i.e. a person not being directly in control of themselves and their surroundings, but able to let go of control: see Kjell, 2011; Kjell et al., 2015). We have used the EPOCH model (Kern et al., 2016) as a measure of adolescent well-being in two of the empirical articles (articles III and IV) with article III being a validation of the EPOCH measure into Swedish. We also consider that adolescent mental health is best understood as the presence of multidimensional well-being as well as the absence of mental health symptoms (depression, anxiety, and stress: Lovibond & Lovibond, 1995), therefore endorsing the dual-factor model (e.g. Suldo & Schaffer, 2008) and mental health profiles (Suldo & Schaffer, 2008; Moore et al., 2019). Other reviewed theories are meant to give a more comprehensive picture of the field, showing that well-being is a complex and a multidimensional concept.

4. Other Psychosocial Aspects Relevant for Adolescent Well-being and Mental Health

The development of the self and authenticity in adolescence

Both the self and an individual's sense of authenticity develop across adolescence, as discussed by developmental psychologist Susan Harter (2012). Harter's (2012) ideas align with those of Rogers (1961) in the sense that Harter (2012; Harter et al., 1996) also espouses the fundamental role of unconditional positive regard in the social environment as a place from which the growth of self and authenticity can sprout. The role of a warm environment, therefore, is seen as key for adolescent healthy development (Harter, 2012) and links the processes of personal growth and Harter's (2012) ideas about the growth of authenticity.

Harter (2012) takes issue with the Piagetian concept of adolescents having a formal operational stage, whereby the adolescent is capable of forming theories through hypothetico-deductive thinking, and therefore capable of forming a coherent theory of self. She posits that, during adolescence, especially early and middle adolescence, the theory of self is fragmented and confused, with a self-image that is unrealistic (Harter, 2012). As late adolescence approaches (beyond 17 years of age), the adolescent's self-theories may remain complicated; however, the adolescent is more able to integrate seemingly contradictory aspects of the self, accept the complex nature of the self and approach greater authenticity. Authenticity, as understood here and elsewhere in the thesis, is integration of the self – reconciliation of all the different social roles and possibly conflicting traits that one experiences in different situations, coupled with a feeling of acting in accordance with one's 'true self', preferences and values. The development of self and authenticity across stages of adolescence, according to Harter (2012), broadly follows the following process.

Young adolescents (11–13 years) are developing their self-concept; what seems most salient for them are traits that influence their social status, such as social skills (e.g. being talkative, funny, popular; Harter, 2012). At the same time, the self may be represented as rather fragmented, whereby the adolescent senses the self as different in different social roles and may find it hard to bring a coherent image of the self to mind (Harter, 2012). This may weaken their sense of self-coherence, self-continuity, and self-agency – the adolescent may feel fragmented and changing, unsure of who is influencing them and their view of the self (Harter, 2012). However, the differentiation of the self in social roles is a mark of cognitive development and the development of different social pressures, which mark the self as different when one is with family than when one is with peers. In other words, the adolescent may feel the self as being elated and extraverted with friends but withdrawn and depressed at home. Such differences may cause confusion as to what the self actually entails. Such contradictory traits become abstractions of the self for

the adolescent – such as considering the self as 'introverted' due to preferring alone-time, being rather quiet and withdrawn in social situations – but there is very little ability to integrate the different abstractions to a coherent image of the self, therefore authenticity is hard (Harter, 2012). However, the differentiated and fragmented sense of self does not yet cause great concern and distress for the early adolescent, a fact that will change as the adolescent gets older (Harter, 2012). Furthermore, the adolescent also becomes much more self-conscious and socially self-aware, i.e. the importance of other people's view of oneself gets higher (Harter, 2012). Such high social awareness may easily lead towards negative introspection, such as rumination, which may have detrimental mental health implications (Harter, 2012). Also, the high awareness of what one's peers may think of the self can easily lead the early adolescent to not feel very authentic, leading to multiple conflicts in their view of what the 'real self' ought to be (Harter, 2012). A young adolescent, however, is more able to detect false-self behaviors in others, meaning that if someone is behaving or saying things that they do not actually believe or want to do, the adolescent tends to detect that fakeness. Gradually, the adolescent may detect more frequently, and be more bothered by, these false-self behaviors, marking the development of some form of authenticity (Harter, 2012).

In middle adolescence (14–16 years), the so-called kaleidoscopic self emerges, whereby the adolescent is actively searching for the self, becomes very high in self-awareness and feels like they have multiple selves in different social roles, much like that of earlier adolescence (Harter, 2012). However, previously held 'truths' about the self may dissolve as adolescents' knowledge and abstract thinking advance. The adolescent may develop the ability to do abstract mapping of the different selves in different social roles – often understanding the self through opposites, such as extraverted vs. introverted, shy vs. outgoing, or taciturn vs. talkative. These contradictions can cause distress, as the integration of these aspects may be difficult, leading to psychological distress, depression, and anxiety (Harter, 2012). The sense of self-coherence and self-continuity as well as self-agency are still hard, given that the adolescent feels in conflict with the self in different roles and cannot easily see how the different selves are integrated into a coherent self. Furthermore, the middle adolescent may struggle to differentiate between one's own preoccupations with those of others, that can lead to two biases and egocentrism – the 'imaginary audience' and 'personal fable' (Elkind, 1967). The imaginary audience refers to the feeling that one is the center of everyone's focus and concern – as if one had an audience for everything one is doing. The personal fable refers to the thought that one is special and unique and one's experiences are fundamentally different from those of others (Elkind, 1967). Such biases show the strong preoccupation that adolescents at this stage have over their self-focus.

At this stage of self-development, the adolescent may continue to feel in conflict with what the 'authentic' self is. However, a sense of authenticity is developing, particularly in circumstances where the feeling of authenticity is undermined.

Adolescents may become much more discomforted by 'false-self' behaviors (Harter, 2012). Still, they may actually lessen avoidance of false-self behavior because they may feel more confusion and discomfort in their self. Such false-self behaviors are more likely occur for adolescents if they receive only conditional positive regard from adults (Harter, 2012), such that only certain values and behaviors are accepted. This type of false-self behavior and conditional regard may lead towards psychopathology (Harter, 2012; Rogers, 1961).

The late adolescent (17–19 years) can more easily integrate parts of the self together, forming higher-order self-abstractions that represent the self in more flexible ways. For example, one no longer sees much internal conflict in being introverted in one situation and extraverted in another because one understands that one needs to be flexible in different circumstances, such as with a close family member as opposed to a job interview or on a date (Harter, 2012). Therefore, one can hold these seemingly contradictory aspects of the self (i.e. introverted and extroverted) under a higher-order abstraction as being 'flexible' (Harter, 2012). The adolescent tends to normalize conflicting aspects of self as a normal part of being human – and therefore they become more accepting of these contradictions (Harter, 2012). The representation of the self in the mind becomes more realistic as one is more able to reflect on the self as complex, understand the situational determinants of one's behavior and attributes (i.e. being shy because of being on a date as opposed to playing video games with friends), and can reflect on both their strengths and weaknesses more realistically (Harter, 2012). The adolescent is more directed towards the future and holds possible selves (Markus & Nurius, 1986) that they want to become. Therefore, the late adolescent may have more of a direction they want to go in, although often this is very idealistic (Harter, 2012). Additionally, one has to integrate one's goals and values as one's own (rather than feeling like values are solely coming from the outside, such as from one's family), therefore the sense of agency is enhanced. In other words, the locus of control for one's life is becoming more internal, the adolescent feels more in control of their lives and their image of the self, rather than governed by others' opinions and influences (Harter, 2012). Authenticity, defined as the integration of self, is growing in late adolescence. However, adolescents may still grapple with the feeling of what the 'true self' ought to be (Harter, 2012). Still, the gradual enhancements in the sense of authenticity can help adolescents in feeling less distress and more at ease with themselves.

Throughout adolescence, of clear importance is the social support available for adolescents, as this can help them integrate the seemingly conflicting aspects of the self. Adult social support such as scaffolding is necessary for the adolescent to be able to harmoniously integrate their multiple selves into a coherent whole without a need for inner conflict and turmoil. Such support manifests as warmth and the ability to engage the adolescent in complex thinking and deep discussion, as well as encouraging their reflection on conflicts (Karcher & Fisher, 2004). Conditional regard, whereby the adolescent is only accepted for certain traits or behaviors, may

enhance a sense of false-self, lessening authenticity and increasing psycho-pathological symptoms (Harter, 2012). By contrast, unconditional positive regard can aid in the development of a coherent self and high authenticity in adolescence (Harter, 2012).

Adolescents' environmental sensitivity

Sensitivity is another important aspect of adolescent mental health. Adolescents differ considerably in the ways that they process environmental stimulation, with some (around 20%) being recognized as highly sensitive (Boyce, 2019; Greven et al., 2019). High sensitivity manifests as a heightened central nervous system sensitivity whereby stimuli such as sensory input (e.g. sounds, lights, textures), inner and outer pressure (e.g. hurrying), or aesthetically pleasing stimuli (e.g. environmental beauty) may elicit stronger responses (Greven et al., 2019). Highly sensitive students also have so-called differential susceptibility in terms of mental health (Belsky & Pluess, 2009) – they are simultaneously sensitive to both negative and positive environmental influences, meaning that they can have the worst mental health profiles in negative environmental conditions but the highest levels of well-being in positive environments (e.g. when receiving loving nurturance: Belsky & Pluess, 2009). However, previous studies have shown that commonly the less sensitive students (called 'Dandelions') have higher well-being than do the highly sensitive students (called 'Orchids': Boyce, 2019; Greven et al., 2019). High sensitivity, therefore, can be a vulnerability factor in detrimental environments but a supportive factor when the environment is nurturing (e.g. Belsky & Pluess, 2009; Boyce, 2019).

The developmental relevance of personal growth for adolescents

Adolescence is a period of many changes: not just physical maturation and brain development, but complex social, cognitive, and emotional changes (Berk, 2004). High-school aged adolescents are in a stage of development in which they are forming clearer identities and finding their independence. Relationships to peers are important and less time tends to be spent with parents. Interest in romantic relationships and sexuality grows, and many adolescents enter into such relationships (Berk, 2004). Adolescents' cognitive development likewise accelerates, and they become increasingly capable of arguing over what is right and wrong. Identity-relevant information is particularly important – adolescents often reflect on who they are in comparison to their peers and adults, what they value and want to represent, which social groups they may belong to, who they admire, and

what their special interests and goals for the future are (Berk, 2004). All these changes suggest that adolescence is a ripe period for personal growth.[1]

Personal growth, as I define it, is a process whereby the individual begins to gradually understand themselves more, develop in self-awareness and openness towards experience and change, show greater existential courage in facing life's difficulties, become more autonomous and self-directed, take greater personal responsibility, accepting themselves, becoming more compassionate towards other people, and ultimately gaining in higher levels of authenticity, harmony and life satisfaction (see article II). Far from being inaccessible or developmentally challenging, many elements of the personal growth process may begin in adolescence, which is already a period of growing self-insight and self-acceptance. Adolescents also tend to be already rather high on well-being (e.g. Suldo, 2016 suggesting most adolescents are high on well-being). It is essential that these subprocesses of personal growth be supported as much as possible.

During adolescence, many people show greater self-awareness. Adolescents may become more skilled in self-reflection (e.g. White et al., 2015; Berk, 2004) and become more aware of their own likes, dislikes, values, beliefs, ideals, emotions and thoughts. Self-awareness during adolescence has been coupled with higher levels of self-esteem among girls (Hesari et al., 2019). There is a risk, however, that such introspection may turn towards negative rumination or self-criticism, whereby adolescents view themselves negatively and suffer from many sources of social pressures on how they view they ought to look or be like. Rumination may lead to adolescent-onset depression that can have detrimental long-term consequences (e.g. Roberts et al., 2021; Orchard et al., 2021). Additionally, adolescents may develop some biases in self-reflection, such as the so-called imaginary audience (Elkind & Bowen, 1979: in Berk, 2004), whereby adolescents may hold the view that they are in the centre of other people's attention and concern, or the personal fable (Berk, 2004), where this belief about being the centre of others' attention extends to the belief that one is unique and especially important. These biases only emphasize how much attention and self-focus adolescents are prone to developing.

Another area of personal growth that is particularly relevant for adolescents is autonomy (see Berk, 2004). Autonomy, the ability to set the locus of control inside, is something that all adolescents grapple with: they begin to show more interest in spending time with friends and exploring the world, gradually breaking away from the family. Autonomy has a number of different forms – behavioral, cognitive, and emotional – that may appear to varying degrees in adolescence (Zimmer-Gembeck & Collins, 2006). Behavioral autonomy refers to self-directed behavior and acting on one's decisions (see Zimmer-Gembeck & Collins, 2006). Cognitive autonomy is the feeling of having locus of control inside, being able to make decisions rather

[1] See article II for the reference to the aspects of personal growth discussed in relation to adolescents.

independently and having self-reliance (Zimmer-Gembeck & Collins, 2006). Finally, emotional autonomy is the process of individuation, separating oneself from parents and their vast emotional influence on the self (see Zimmer-Gembeck & Collins, 2006). Many adolescents even move out of home at a later stage, often coupled with the start of university/college studies. For many adolescents, establishing autonomy and a more independent life is a developmental milestone.

With the gradual growth of autonomy, adolescents may also begin to exercise their abilities to take on more personal responsibility. This skill tends to develop alongside other skills such as emotion regulation, empathy, and executive functions (Wray-Lake & Syvertsen, 2011). While risk-taking and experimentation is common during adolescence (Steinberg, 2004; Berk, 2004), such risk-taking may also lead towards greater ability to learn from possible mistakes and develop in responsibility. Additionally, the establishing of an independent life particularly if one moves away from home naturally requires the adolescent to rehearse their responsibility for taking care of themselves more independently.

Existential courage is another skill that adolescents may naturally grapple with. Existential courage refers to the ability to face difficulties head-on, being able to tap into one's coping mechanisms to find resilience in dealing with that difficulty (Maddi, 2004). In facing their struggles, such as problems in the family or conflicts with peers, some adolescents may find resilience and develop in their existential courage, while others may find it difficult to cope and struggle with their mental health – something that is all too common during adolescence (WHO, 2021). Importantly, mental health problems do not preclude existential courage; one can courageously face mental health problems and develop resilience in that struggle. This makes it all the more important to help adolescents develop their skills for coping and resilience.

Openness towards experiencing and change may also grow during adolescence. This subprocess of personal growth refers to the ability to be more open towards differences without immediate judgment or categorization, accepting that life is fluctuating, and many things are changing in and outside of oneself. The need for closure lessens (i.e. the need for immediate certainty and clarity; Kruglaski & Fishman, 2009). This skill likely develops during adolescence, such that adolescents question tightly held rules, norms, and beliefs – they may want to develop their own views of the world and what *they* believe in rather than being governed by adults' norms (Berk, 2004). They may therefore become more open to alternatives, want to experiment, and explore different ways of doing and knowing, different cultures and different ideologies (see Bayram Özdemir et al., 2019). However, it is possible that adolescents double down on their own views, closing themselves off to other perspectives, in order to develop their identities (Bayram Özdemir et al., 2019).

Indeed, some people struggle during adolescence, particularly in how they relate to themselves – they may experience self-doubt, problems with self-esteem and

feelings of rejection or loneliness (Zhou et al., 2020). Some adolescents may struggle with global self-esteem, or the sense that one values the self and feels good enough (Birkeland et al., 2012). This makes self-compassion a key skill to cultivate in adolescence. Self-compassion involves kindness towards the self, perception of common humanity (i.e. feeling that one is a part of the common group, and one's struggles are not abnormal or isolated from other people's struggles), and mindfulness (i.e. an ability to observe the self without judgment; Neff, 2011). It is suggested to be important for adolescents' well-being (Neff & McGehee, 2010) and is a key subprocess of personal growth.

Alongside the above subprocesses of personal growth, authenticity (or self-integration) may develop throughout adolescence and contribute to greater well-being (see Bonnie & Backes, 2019; Thomaes et al., 2017). Adolescents want to find out more about who they are, and the integration of their various selves is an important developmental milestone (Erikson, 1968), the lack of which may make the transition to adulthood with its responsibilities harder (Erikson, 1968). Adolescents start to reflect on their self and view themselves as 'motivational agents', whereby it is important to reflect on one's dreams, goals, and values to better understand the self (Bonnie & Backes, 2019). Younger adolescents (around 13 years of age) may feel confused by the contradictions in their self – such as behaving in extraverted ways with friends but introverted ways with classmates (Bonnie & Backes, 2019). However, over time, such contradictions are less confusing to adolescents as they integrate different aspects of themselves (therefore feel more authentic) and understand that the self may be complex (at around 18 years of age: Bonnie & Backes, 2019). Authenticity in adolescence mediated the path between basic need satisfaction and well-being (Thomaes et al., 2017), suggesting that a supportive social environment may aid adolescents in being able to express who they are authentically, which has positive well-being connotations.

In summary, the skills associated with personal growth may be important for adolescents' development; however, they are clearly not inevitable developmental processes – depending on their environment and many other aspects, adolescents may struggle to develop these skills and cope with adversity, while some may develop mental health problems. It is crucially important that adolescents be supported in developing these skills. While exactly how to do so requires further research, a promising area is positive education.

Promoting well-being among adolescents: Positive education and the motivation for a personal growth model

Adolescent well-being may be practically supported in schools through positive education (Norrish, 2015). The concept of positive education was coined by Seligman et al. (2009) as an educational reform movement based on the science of positive psychology. They aimed to bring the research on well-being into schools using practical intervention methods that can either be stand-alone interventions or integrated as parts of the normal school classes. Interventions bring psychological knowledge to school to support prevention of mental health problems and promote motivation and focus on 'character', rather than focusing just on academic skill (Tough, 2013; Norrish, 2015). Positive education researchers have attempted to build a school program using evidence-based methodologies shown in experimental, or quasi-experimental studies, to have positive effects on well-being (Seligman et al., 2005; Seligman et al., 2009; Norrish, 2015; Seligman & Adler, 2018).

Student and staff well-being take central stage in positive education – making sure that the science of well-being can enter into actual practises in students' and teachers' own lives in and outside of school. Norrish et al. (2013) define positive education as a way to utilize positive psychological research in combination with best-practice educational pedagogy to bring about student flourishing. Furthermore, Seligman et al. (2009) emphasizes that in positive education one does not need to choose between well-being or academic performance in school – it strengthens both aspects. Studies have shown that positive education enhances student well-being such as optimism, strengths-awareness, happiness, school enjoyment, positive relationships with peers and families, in addition to enhancing students' academic success (Seligman & Adler, 2018). Therefore, focusing on well-being in the school is not a choice between wellness and academics, rather a well-being approach can be a great basis for enhancing students' academic motivation and likelihood of achieving academic success.

Practically, positive education has involved promoting aspects of the PERMA theory (Norrish, 2015) through various in-class exercises. Such exercises might be, for instance, promoting character strengths in the classroom through recognizing students' highest strengths, discussing these strengths, and spotting strengths in others (Uusitalo-Malmivaara & Vuorinen, 2016). Other activities include the use of mindful meditation exercises (Mejjklejohn et al., 2012), promoting goal setting (Oettingen & Stephens, 2009), rehearsing emotion recognition and positive emotions such as gratitude (Froh et al., 2008), or rehearsing acts of kindness (e.g. Binfet & Passmore, 2019).

Some schools around the world have been implementing positive education in their school strategy. Such initiatives are happening in Finland, Australia, USA, Mexico, Peru, Bhutan, China, and India. A report of the findings back in 2018 by Seligman

and Adler found that these initiatives had promising effects on student well-being as well as academic success. For instance, a qualitative study of a class exposed to a year-long positive education program in Finland found that the program enhanced students' well-being, positive emotionality, engagement, perseverance, optimism, and happiness (Leskisenoja, 2016). In Australia, in a comprehensive school-wide project, year 9 students showed enhanced mental health (decreased depressive and anxiety symptoms) and well-being (life satisfaction, positive emotions, engagement and meaning). Year 10 students showed enhancements in growth mindset, meaning, and hope as well as had higher levels of well-being, better social relationships, and better physical health at the end of school year (Seligman & Adler, 2018). The results from the UK particularly emphasized that depression and anxiety were significantly reduced, and that school grades and school attendance improved. Similar types of results have been reported in all studied countries (Seligman & Adler, 2018).

Although positive education is widely spread, it lacks a theory of the change or growth of well-being as a basis for interventions. I argue that the attempts to practically change student well-being must be based on a theory of *how well-being changes*. A theory of well-being change can explicate the various *mechanisms of change* involved that could be targeted in interventions, such as self-awareness, self-compassion, and authenticity.

What gap in research this thesis aims to fill

There is a still a lack of collaboration between the humanistic and positive psychology subfields – and perhaps even a sentiment against this collaboration. I think the study of holistic processes, such as personal growth, would be much enhanced if these subfields work better together (see article I). Furthermore, the study of well-being, particularly when well-being is the target of interventions, such as in positive education (Seligman, 2011; Norrish, 2015), has to be based on a holistic theory of well-being processes and change. To change well-being, one must understand how well-being changes – how does well-being develop in the individual? How can the development of well-being be supported in practice? There is yet no clear theory of well-being as a dynamic process of change withing positive psychology, which needs to be ameliorated.

At the same time, this thesis aims to increase our understanding of adolescent well-being processes by offering a more nuanced perspective – we identified mental health profiles using the person-centred method of latent profile analysis (article IV) and tested a model of how a positive sense of self (as a part of personal growth for adolescents) is formed in adolescents (article V). For these studies, my colleagues and I validated in Swedish a positive educational evaluation measure of adolescent well-being based on PERMA theory (Seligman, 2011; the EPOCH measure, Kern et al., 2016), which had not been previously validated in Swedish.

The aims of the thesis

This thesis has two main aims:

1) to theoretically structure the process of personal growth by bringing together the OVP theory from humanistic psychology and well-being constructs from positive psychology (line 1 of inquiry)
2) to explore well-being processes among adolescents, including mental health profiles and sense of self (line 2 of inquiry).

The first aim encompasses the first two articles (article I and II) of the thesis, while second aim encompasses the empirical work in the latter three articles (articles III, IV and V). An additional aim of article III was to validate an adolescent well-being scale (EPOCH) in Swedish.

This thesis, therefore, has two major aims explicating two separate but interlinked lines of inquiry. The first line explores the concept of personal growth by linking together the humanistic theory known as the organismic valuing process (OVP) by Rogers (1961, 1964) and showing its connections to more contemporary positive psychology and related fields (such as attachment theory). We then extend these thoughts to suggest a model of the personal growth process based on Rogers' (1961) OVP.

The second line of inquiry is an empirical exploration of various well-being processes among adolescents – mental health profiles and sense of self. Furthermore, during this thesis, we validated an adolescent well-being scale (EPOCH; Kern et al., 2016) in Swedish. The empirical exploration of adolescents' well-being processes was aimed at understanding further nuance in adolescent mental health from different perspectives.

The second line of inquiry is informed by the first line. In particular, our use of mental health profiles aligns with the person-centred approach inherent in humanistic psychology. Furthermore, the sense of self processes (self-awareness, self-compassion, and authenticity) explored in article V are all relevant for the PGP model.

Introduction to the articles

Article I: Theoretical review of organismic valuing process theory and positive psychology (Published in Frontiers of Psychology in July 2020)

Aim and background

In this article, we aimed to show how the organismic valuing process (OVP) explains the process of personal growth, focusing on how the theory is supported by and fundamentally related to research within positive psychology. We also argue that the OVP could serve as a useful metatheory for positive psychology.

Positive and humanistic psychology have been in conflict since the inception of positive psychology and its attempts to distance from its predecessor. The initial distancing made sense in creating a field of study of the good life on a realist epistemology and quantitative, reductive research methods. With the separation of positive and humanistic psychology, the subfields have grown to be different in certain important respects (different philosophies and methodologies: Friedman, 2008) which only serves to enable a fruitful integration of them. I suggest that the difference can be utilized for the benefit of each when integrating the fields. Whereas positive psychology is based on a multitude of well-being theories that explain the traits and constructs relevant for the good life, humanistic psychology could provide positive psychology with a metatheoretical framework for better understanding the interconnections of these various traits, in particular the growth process of well-being and mechanisms of change. Such integration can be especially beneficial in the practical application of positive psychology interventions, such as in schools.

The article approaches first the OVP by pointing out its main assertions:

1) There is an actualizing tendency in people – this means that people are inherently motivated towards growth and fulfilment of their potential when their environment can support this growth process.

2) The social environment needs to be growth-supportive by providing the individual with the conditions of growth: genuineness, empathy, and unconditional positive regard.
3) One can approach congruence through greater openness to experience and learning to trust the self.
4) One becomes more autonomous, responsible, and authentic.
5) One is more open to change.
6) One enhances in compassion for the self and others.
7) One becomes a fully-functioning person.

After these aspects of the OVP are explained, the article turns towards positive psychological literature in showing how each of these assertions inherent in OVP are actually supported by research evidence. Therefore, this study aims to show that the OVP is not just an outdated theory, but in fact very relevant for the discussion of current research within positive psychology. Furthermore, it aims to show that the OVP could serve as an overarching holistic metatheory for well-being – *how well-being grows*.

Contributions

This article contributes to the fields of positive and humanistic psychology in several ways; 1) It supports integrating the subfields of positive and humanistic psychology more by showing the clear interconnections of these fields. 2) It clarifies and further operationalizes the theory of OVP into more tangible language and 'stages' that were not clearly explicated by Rogers. Therefore, it gives a clearer definition and operationalization of the theory of OVP and in fact *interprets it as a clear theory of growth*. 3) The article considers in general what personal growth as a process may be. 4) The article explicates some important implications that would apply if this theory was more generally endorsed by the field of positive psychology. An implication, for instance, would be the importance of context – taking into account the quality of the social atmosphere and how fundamental it is in promotion of individuals' personal growth in various contexts. 5) Finally, the article suggests an overarching metatheory for well-being research – that is, well-being research could be approached from the holistic perspective of the process of growth.

Article II: Theoretical article – Introducing the Personal Growth Process Model (in press by New Ideas in Psychology)

Aim and Background

This article is a theoretical continuation of article I. The aim of this article is to further develop our own interpretation of the OVP and suggest a model of the personal growth process – the Personal Growth Process (PGP) model. In this article, we introduce the need for a process theory of personal growth, introduce the model itself, and briefly discuss the main implication of this model – the importance of the social context for personal growth. Roger's (1961) OVP has already been thoroughly discussed in this thesis, making further discussion of it unnecessary here. However, the personal growth subprocesses in the PGP model will be briefly reviewed.

Personal growth occurs in a psychologically safe interpersonal atmosphere particularly to individuals who are willing to engage with their growth process. We suggest that an individual who is unwilling to change for any reason does not grow (unless inadvertently they encounter a highly distressing or traumatic experience that pushes them towards change). Therefore, personal growth is not a necessary process, even though it is 'natural'.

The subprocesses of personal growth are as follows:

1) **Self-awareness**, referring to the deeper understanding of oneself, both one's intrapersonal (thoughts, emotions, beliefs etc.) and interpersonal beings (one's behavior and its influences).
2) **Openness to experiencing and change**, referring to an open and receptive attitude towards all experiences and ability to embrace change, along with a decreasing need for certainty and quick judgment or categorization.
3) **Existential courage**, referring to the ability to face life's fluctuations, setbacks, and triumphs with bravery.
4) **Autonomy**, referring to the skill of being more governed by one's own decisions and directions in life rather than being ruled by outside pressures and demands. Autonomy in the PGP refers to the ability to have an internal locus of control, but it does not imply complete independence or isolation from others – instead, an autonomous person might still be quite interdependent on others, but autonomously so (i.e. autonomy as volition: see Ryan & Deci, 2018).
5) **Personal responsibility**, which means that the individual is more able to understand their own responsibility in their lives as an active force. This also

implies taking stock of the accountability one has for their actions towards other people.

6) **Self-compassion**, which refers to the ability to be kinder towards oneself, more able to forgive and care for oneself and understand that one is not isolated in one's experience, but rather a part of the more general human condition (see Neff, 2011).
7) **Compassion**, referring to the caring and kind attitude one has towards others. In the PGP model, compassion is extended to other people with care for their well-being, but also towards the larger ecosystem (nature) and the world more at large.

This growth process advances towards greater capacity for well-being, which is both a 'goal' of growth and intertwined throughout the process itself in a dynamic way. Well-being is defined in the PGP as consisting of authenticity (congruence in Rogers's terms, or the integration of the self), harmony (ability to be in peace with the self and one's surroundings) and life satisfaction (positive estimation of one's life overall).

Contributions

The main contribution of this article is the theoretical suggestion of a new model for personal growth based on Rogers' (1961) OVP. This endeavor has important theoretical and practical implications. Theoretically, the model takes the scientific discussion of personal growth further, explicating the ongoing process that an individual is engaged in during their personal growth and suggesting the types of psychosocial changes that may occur. A process model of such changes is important given that multiple previous accounts have only approached personal growth proximally as something that can occur alongside something else, such as through goal-pursuits (Bauer & McAdams, 2010), a mindset for growth (Dweck, 2006), a retrospective narrative of one's life (Bauer & McAdams, 2004), or a motivation for growth (Robitschek et al., 2012). So far, no other attempt at translating Rogers's (1961) description of successful therapeutic change into a model of the personal growth process for positive psychology has been done. Regarding the practical utility of the model, people working to support change of well-being and mental health among different populations may benefit from understanding what personal growth entails. For example, the model may have practical utility in psychotherapy whereby the process that a client may undergo during successful therapy is suggested. It may also be useful for positive school interventions in which student well-being growth is the aim. Among other things, such a model can suggest which mechanisms of change are important for well-being change and should be therefore put into place for well-being interventions.

Article III: Validation of the Adolescent Multi-dimensional Well-being Scale (EPOCH; Kern et al., 2016; Published in PLOS One, October 2021)

Aim and Background

The aim of this article is to validate an adolescent well-being scale called the Adolescent Multi-dimensional Well-being Scale (EPOCH) in Swedish. Well-being is traditionally approached from either hedonic or eudaimonic perspectives. For adolescents, however, it is particularly necessary to consider both approaches when measuring their well-being (Kern et al., 2016). The PERMA theory of well-being (Seligman, 2011) is a multidimensional approach to well-being that combines both the hedonic and the eudaimonic views, defining well-being through the components of Positive emotions, Engagement, Relationships, Meaning and Achievement, all of which are what a healthy individual would intrinsically strive towards (Seligman, 2011). Kern et al. (2016) decided to redefine the PERMA theory to better suit adolescents with similar well-being processes involved, thus creating the EPOCH model. EPOCH stands for engagement, perseverance, optimism, connectedness, and happiness. Engagement refers to the ability to be absorbed in one's activities. Perseverance is the ability to keep at one's goals and pursuing one's activities even through various hardships. Optimism is the positive attributional style, whereby negative events are considered to be local (i.e. short-term and influencing only a certain outcome) and not related to the self, whereas positive events are considered global (long-term and influencing multiple outcomes) and self-related (Seligman, 2006). Connectedness is the sense of being cared for by important others and connected to a community. Finally, happiness is the common occurrence of positive affect (Kern et al., 2016).

For studies within positive psychology and particularly positive education, the PERMA theory is commonly used as a basis (Norrish, 2015; Norrish et al., 2013; Kern et al., 2016). Therefore, the ability to measure outcomes that are based on that theory is important. The multidimensional adolescent well-being scale EPOCH has not been previously validated in the Swedish language but offers a way to measure well-being outcomes among Swedish adolescents particularly within positive educational studies. Therefore, in this study, we tested the psychometric properties of the Swedish version of the Adolescent Multidimensional Well-being Scale (EPOCH: Kern et al., 2016).

Methods

Participants and procedure

Three Swedish high schools in three cities were contacted for this study to respond to a battery of well-being scales online through a study link provided to them through student emails. Altogether, 852 adolescents responded to this study. Participants' ages ranged from 16 to 21 years old with a mean age of 18 years old. Most of the participants identified as girls (*n* = 555, 65.6%), 286 identified as boys (33.8%) and 5 (0.6%) identified as other. The majority of participants were born in Sweden (*n* = 722, 85.3%), having either one or both parents likewise born in Sweden (*n* = 575, 68%).

The Adolescent Multidimensional Well-being Scale (EPOCH; Kern et al., 2016) was translated into Swedish by the research team prior to this study using the back-translation procedure (Sousa & Rojjanasrirat, 2011), meaning that a native Swedish speaker translated the English items to Swedish, after which another Swedish speaker back-translated the Swedish items into English. A native English speaker checked the two English versions to each other for similarities in meaning. High similarity was reported.

Measures

The following measures were used in this validation study:

Adolescent well-being. The EPOCH scale (Kern et al., 2016) is a multidimensional measure consisting of 20 items with 5 subscales: engagement, perseverance, optimism, connectedness, and happiness. The answer options range on a 5-point Likert scale from 1 ('*almost never*') to 5 ('*almost always'*).

Coping self-efficacy. Coping self-efficacy was used in this study to measure criterion-related validity. The scale used was one developed by Chesney et al. (2006). It consists of 13 items with the subscales of problem-focused coping, getting support from friends and family and stopping unpleasant emotions and thoughts. The scale is a 11-point Likert scale with answer options ranging from 0 (*'Cannot do at all'*) to 10 (*'Certain can do'*).

Depression, anxiety, and stress. The 21-item Depression, Anxiety and Stress Scale (DASS) (Lovibond & Lovibond, 1995) was used for measuring mental health symptoms of depression, anxiety, and stress. The scale's answer options range on a 4-point Likert scale from 0 ('*did not apply to me at all')* to 3 (*'applied to me very much, or most of the time'*).

Data analysis

The data was pre-screened for any violations of essential assumptions and missing data. No major violations were found. There was some missing data in the dataset, but Little's missing completely at random test (MCAR) yielded non-significant results, suggesting that the missing data was not related to any variables in the study. Missing values were handled by Full Information Maximum Likelihood (FIML) technique.

The construct validity of the EPOCH scale was estimated using confirmatory factor analysis. We estimated both a one-factor model (all items loading to a single latent well-being factor) and second-order model (items loading onto five different well-being factors, which then load onto a single latent well-being factor). The goodness of fit of the model was estimated by the χ^2 statistic, root mean square error of approximation (RMSEA) with 95% confidence interval, Tucker-Lewis Index (TLI), comparative fit index (CFI), and standardized root mean square residual (SRMR). The internal consistency was measured with the use of Cronbach's alpha and McDonald's ω. Criterion-related validity was estimated using the Pearson product moment correlations between the EPOCH scale, coping self-efficacy, and mental health symptoms.

Results

The five-factor model of EPOCH showed acceptable model fit and better fit than the one-factor and second-order factor models, even though the latter model also showed acceptable fit. All items significantly loaded onto their respective factors. Internal consistency was high for both the total scale and all subscales. Criterion validity was likewise supported by positive correlations to coping self-efficacy and negative correlations to depression, anxiety, and stress. Engagement showed the weakest positive correlation with coping self-efficacy while optimism and happiness showed the highest correlations, which makes sense given that engagement may be related to flow, which is related to the loss of clear affectivity (Csikszentmihalyi, 1990), whereas optimism and happiness are more hedonic and related to higher positive affect (Kern et al., 2016). Taken together, the results showed good psychometric properties for the Swedish version of the EPOCH scale (Kern et al., 2016).

Contributions

This study contributes to the valid measuring of adolescent well-being in Sweden by validating one of the central well-being scales within positive psychology and particularly positive education. It is important to be able to validly measure adolescent well-being in a multidimensional way, taking into account aspects of both hedonia and eudaimonia, as this best captures adolescent well-being (Suldo, 2016; Kern et al., 2016). This study therefore contributes to the ability to measure adolescent well-being in different positive educational (or other well-being-related) interventions.

Article IV: Empirical article – Dual-factor profiles of mental health (Under review)

Aim and Background

In this article, we aimed to explore how well-being and mental health symptoms can co-occur through adolescent mental health profiles, and how such profiles are related to environmental sensitivity, coping self-efficacy, pandemic distress, and gender.

Adolescent mental health is a key area of concern in Sweden (Schierenbeck & Karlsson, 2018) and globally (WHO, 2021), particularly in the wake of the pandemic (Prowse et al., 2021; Cao et al., 2020). This study investigated adolescent mental health through identification of mental health profiles, which offer a more nuanced picture of adolescent functioning, using latent profile analysis. We also explored whether mental health profiles identified in other populations would be replicated in a Swedish sample. We then compared the extracted profiles in terms of two traits that may influence their mental health: environmental sensitivity and coping self-efficacy. We also compared them in terms of adolescent distress levels during the early stages of the pandemic in May 2020.

This study was based on the dual-factor model of mental health, which interprets mental health not only as the lack of mental health symptoms but also the presence of well-being. Accordingly, both aspects must be considered when classifying mental health profiles (Suldo & Schaffer, 2008; Greenspoon & Saflofske, 2001). The dual-factor mental health profiles commonly found in previous research are complete mental health (high on well-being, low in psychopathology), moderate mental health (average to high on well-being, lower than average psychopathology), vulnerable (average on both), symptomatic but content (average to high on well-being, high on psychopathology), and troubled (low on well-being, high on psychopathology). These profiles are often classified using cut-off scores, which Moore et al. (2019) has criticized. We therefore opted to use latent profile analysis to delineate the profiles, as recommended by Moore et al. (2019).

We also investigated how environmental sensitivity and coping self-efficacy differed across these profiles. Environmental sensitivity is a personality factor reflecting higher nervous system responsiveness to low-high levels of stimulation in the environment, such as sensory stimulation (sounds, smells, light, textures), a sense of hurry or hunger (inner and outer pressure), and beautiful or pleasant stimuli (aesthetic sensitivity; Aron & Aron, 1997; Greven et al., 2019). Environmental sensitivity is prone to differential susceptibility (Belsky & Pluess, 2009), meaning that highly sensitive individuals are simultaneously predisposed to develop mental health problems in detrimental environments, but also to thrive in positive

environments; accordingly, it seemed relevant to explore how sensitivity related to mental health profiles. We expected that aesthetic sensitivity, which has previously been suggested to be related to the positive outcomes of mental health (Pluess & Belsky, 2013; Pluess et al., 2018), would be related to the positive mental health profiles, while low sensory threshold and ease of excitation (the two other factors of environmental sensitivity) would show the opposite pattern and be related to negative mental health profiles.

Coping self-efficacy (Chesney et al., 2006) refers to beliefs about the ability to cope with adverse situations using problem-focused coping, social support, and stopping unpleasant emotions and thoughts. We included this construct to see how adolescents felt about their coping depending on their mental health profile.

Another aspect we investigated was the possible gender distributions of mental health. We expected, based on previous studies (Campbell et al., 2021; Prowse et al., 2021) that students identifying as 'women/girls' would show worse off mental health than those identifying as 'men/boys'.

Finally, because this study was conducted during the pandemic, we wanted to measure how distressed students felt because of the pandemic.

Methods

Participants and procedure

We contacted high schools in both Skåne and Stockholm to take part in this online study. Altogether 846 (M_{age} = 18) students responded to the survey (*n* = 555, 65.6% identified as 'girl/woman', *n* = 286, 33.8% identifies as 'boy/man', and *n* = 5, 0.6% identified as 'other') during their school day mostly from home, because schools were closed during the early pandemic. The pandemic started around the time of the data collection, but we decided to ask for students to retrospectively report their levels of functioning prior to the pandemic, to be able to compare mental health profiles to their current levels of pandemic distress.

Measures

We opted to use different measures for investigating mental health profiles than are usually previously used in the literature. This is because we wanted to see if such profiles would replicate using these different measures, in Sweden, and using a different analysis method (see below). The scales we used are as follows:

Well-being For this purpose, we used the EPOCH scale (Kern et al., 2016), which entails both hedonic and eudaimonic aspects of well-being. The scale consists of 20 items in five subscales: engagement, perseverance, optimism, connectedness, and happiness. The answers are given on a 5-point Likert scale ranging from 1 (*'almost never'*) to 5 (*'almost always').*

Mental health symptoms For mental health symptoms, we used the Depression, Anxiety and Stress Scale (DASS: Lovibond & Lovibond, 1995), which has 21 items in three subscales (depression, anxiety and stress). The answers are given on a 4-point Likert scale ranging from 0 ('*did not apply to me at all')* to 3 (*'applied to me very much, or most of the time'*).

Environmental sensitivity The Highly Sensitive Child Scale (Pluess et al., 2018) was used to measure high sensitivity. The scale includes 12 items in three subscales: ease of excitation, low sensory threshold and aesthetic sensitivity. The answer options range on a 7-point Likert scale from 1 (*'not at all')* to 7 (*'extremely').*

Coping self-efficacy The Coping Self-efficacy Scale (Chesney et al., 2006) was used. This scale comprises 13 items with subscales of using problem-focused coping, getting support from friends and family, and stopping unpleasant emotions and thoughts. Answers are given on an 11-point Likert scale ranging from 0 (*'cannot do at all'*) to 10 (*'certain can do'*).

Pandemic distress Four questions were devised by the research group to address pandemic distress. These concerned stress, worry, physical health and overall well-being during the pandemic. Refer to the article for more details.

Data analysis

Preliminary data checks were performed without any major violations found. Some missing data was present, but Little's MCAR test showed a non-significant result, indicating that the missing values were not related to any variables in the study. Missing data was therefore replaced with the expectation maximization procedure.

A latent profile analysis (LPA) was performed on the data. The optimal profile solution was estimated based on the values of the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC) (with lower values on both indicating better model fit) and value of entropy (with higher values indicating lower entropy and therefore less uncertainty in model classification; Ferguson et al., 2020). Furthermore, the differences between the profiles were analyzed using one-way between groups multivariate analysis of variance (MANOVA). Pearson's product moment correlation coefficients were estimated to see how the different subscales of environmental sensitivity were related to mental health outcomes.

Results

We found altogether 5 different mental health profiles, replicating earlier findings with one exception – instead of a symptomatic but content profile, we found a symptomatic but managing profile, which was lower on well-being than was found previously. The 5-profile solution was chosen as the best model fit compared to the close-by profile solutions, an improvement from a 4-profile solution and no clear improvement to the 6-profile solution. The profiles found were complete mental health (42.9% of sample), moderate mental health (37.8% of sample), vulnerable (10% of sample), symptomatic but managing (5% of sample), and troubled (4.3% of sample).

Girls had worse off mental health than did boys, given that significantly more girls had the troubled and symptomatic but managing profiles, and significantly fewer girls had the complete mental health profile. The gender distribution was equal for the moderate mental health and vulnerable profiles.

The mental health profiles differed in terms of both environmental sensitivity and coping self-efficacy. For the environmental sensitivity subscales, the complete mental health profile was lower than were the other profiles on ease of excitation and lower than most other profiles on low sensory threshold (except for the troubled profile, which was equal on this). Aesthetic sensitivity was significantly higher in the complete mental health profile than for the moderate mental health and vulnerable profiles but did not differ significantly from those of the troubled and symptomatic but managing profiles. For coping self-efficacy, the complete mental health profile was significantly higher than all other profiles. The symptomatic but managing profile had higher problem-focused coping and support from friends and family compared with the troubled profile, but the profiles did not differ on stopping unpleasant emotions and thoughts.

Correlation coefficients showed that for environmental sensitivity, while the subscales ease of excitation and low sensory threshold were negatively related to well-being and positively to mental health symptoms, aesthetic sensitivity showed positive correlations with well-being.

The profiles did not differ in their levels of pandemic distress. Distress was, however, generally rather high, with 51.8% reporting being more worried than usual, 55.2% reporting being more stressed than usual, 29.5% indicating that the pandemic had had a negative impact on their physical health, and 35.7% considering that the pandemic's overall effect on their well-being was negative.

Contributions

This study contributes to dual-factor mental health profile studies by replicating earlier findings and finding a new profile: symptomatic but managing. These results add to discussions on whether high well-being can coexist with high psychopathology, as our results did not clearly support this possibility. This might be because the measures of well-being and mental health assessed recent states rather than previous diagnoses or behavioral indicators of mental health (as done in previous dual-factor studies: see the article).

Looking into the nuances of adolescent mental health in Sweden is important, given the recent negative developments in the mental health among adolescents in Sweden (Schierenbeck & Karlsson, 2018). Furthermore, this study is the first to explore how mental health profiles are related to environmental sensitivity. We found some evidence for the differential susceptibility hypothesis in that aspects of environmental sensitivity, ease of excitation and low sensory threshold, were correlated with negative mental health outcomes, whereas aesthetic sensitivity was positively correlated with well-being. Furthermore, ease of excitation and low sensory threshold were lower among students with complete mental health, while aesthetic sensitivity was highest for the complete mental health, troubled, and symptomatic but managing profiles. This might suggest that while ease of excitation and low sensory threshold are negative indicators of environmental sensitivity, aesthetic sensitivity is related to both positive and negative outcomes. Furthermore, coping self-efficacy showed some indications of being a possible positive buffer against distress.

This study furthermore adds to the literature on pandemic distress among Swedish adolescents.

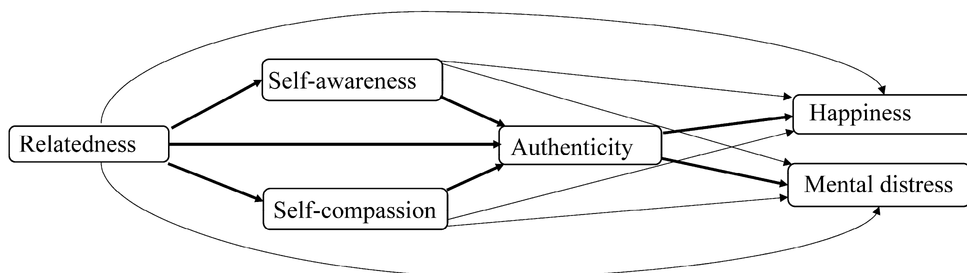
Article V: Empirical article – Testing adolescents' sense of self and mental health (in progress)

Aim and Background

This study aims to investigate how adolescents' sense of self, defined as self-awareness, self-compassion, and authenticity, is related to mental health (psychopathological symptoms and happiness) and is embedded within a caring social environment marked by social relatedness. We expected that a positive sense of self would together be related to higher levels of authenticity and positive mental health. Adolescence is a time in which a concept of the self is forming, and people are undergoing various changes, such as learning multiple important skills for well-being (e.g. Berk, 2004). Self-awareness, self-compassion, and authenticity have been shown to have positive effects on adolescent well-being and mental health in separate studies (e.g. Mertens et al., 2022; Neff & McGehee, 2010; Thomaes et al., 2017). However, looking at them together as a process of the developing sense of self has not been previously done. Furthermore, it is important to emphasize that adolescents are not forming their sense of self in isolation – their sense of relatedness to the social environment is suggested to have a strong influence on the way in which this relationship to the self forms (e.g. Harter, 2012). As argued in this kappa, personal growth is suggested to be highly relevant for adolescents, given these various changes. This study was initially based on the PGP model; however, the actual article does not utilize the PGP as a framework. This is because article II of this thesis had not yet been published by the time we worked on this article. Furthermore, due to its cross-sectional nature, we deemed it inappropriate to claim to test a model of growth. Instead, we tested it as a model of adolescent self-processes and well-being.

In the study, we tested the theoretical mediation model depicted in the figure below. According to this model, a positive sense of self among adolescents is a process in which the individual grows towards greater authenticity and mental health. Self-awareness and self-compassion are suggested to precede authenticity, since authenticity is defined as having 'self-knowledge' and a connection with the self (Wood et al., 2008). The condition necessary for the process, here used as the predictor variable, is relatedness satisfaction. High relatedness satisfaction may help the individual develop greater self-awareness, i.e. understanding of their minds and behavior. Furthermore, the individual may be able to enhance in self-compassion. We deemed self-compassion in this model to be particularly important for adolescents, given that self-awareness may also be negative and result in self-criticism or rumination and possible mental health problems (Orchard et al., 2021; Roberts et al., 2021). Authenticity is positioned as the outcome of a positive relationship with the self, together with well-being. We decided to test for positive

mental health, given its fundamental importance for adolescent wellness, by measuring happiness in addition to depression, anxiety, and stress. See the graph 1 below for the model tested.



Graph 1. The suggested model of adolescent sense of self. Relatedness satisfaction is the precursor to the formation of a positive sense of self with a direct relationship to authenticity and mental health, and indirect relationships via self-awareness and self-compassion. Positive mental health is the suggested outcome.

Our hypotheses were as follows:

H1: social relatedness is positively associated with the aspects of sense of self (self-awareness, self-compassion, authenticity) and positively to happiness, while negatively to mental distress.

H2: the link between social relatedness and authenticity is mediated by self-awareness and self-compassion.

H3: the relationship between social relatedness and our dependent variables happiness vs. mental distress is mediated by self-awareness, self-compassion, and authenticity.

Methods

Participants and procedure

The participants in this study were high school aged students (N = 522, M_{age} = 16) from the first year of high school in four different schools across Skåne. Out of the participants, the majority identified with being a ‘girl/woman’ (n = 313, 60%), while the rest identified as either ‘boy/man’ (n = 199, 38.1%) or ‘other’ (n = 10, 1.9%). Students were contacted through emailing them the consent form and individualized login details with the study link. The survey was filled in during school hours under the supervision of the class mentor/teacher.

Measures

Because many of the constructs withing the PGP model do not have theoretically closely matching measurement scales developed, we opted to choose scales, or subscales, that were as close as possible. The following scales or subscales were used in the study:

Relatedness satisfaction. The relatedness satisfaction (and reversed relatedness frustration) subscales of the total Basic Need Satisfaction and Frustration scale (BPNSFS) (Chen et al., 2015) was used. It includes eight items on relatedness satisfaction. The answers are given on a 5-point Likert scale ranging from 1 (*'not at all true')* to 5 (*'very true'*).

Self-awareness as Mentalization of self. Self-awareness is ultimately the deeper connection with and understanding of one's mind. Such a concept can be found in a scale of mentalization, particularly the subscale mentalization of self (Dimitrijević et al., 2018), which is comprised of eight items. The answers range on a 5-point Likert scale ranging from 1 (*'almost never true'*) to 5 (*'almost always true'*).

Self-compassion. We used the Self-compassion scale short form (SCS-SF) (Raes et al., 2011). This scale includes subscales of kindness to self, self-judgment, common humanity, isolation, mindfulness, and over-identification. The total scale was used in summary because all aspects are relevant for the self-compassion concept in the PGP model. The scale consists of 12 items with answers ranging on a 5-point Likert scale from 1 (*'almost never'*) to 5 (*'almost always'*).

Authenticity. We measured authenticity with the authentic personality scale of Wood et al. (2008), which is likewise based on Rogers (1961). The authentic personality scale (Wood et al., 2008) consists of three subscales: 1) alienation from the self (reversed), 2) accepting external influence (reversed), and 3) authentic living. The scale consists of 12 items. The answer options range on a 7-point Likert scale from 1 (*'totally disagree')* to 7 (*'totally agree').*

Mental health as happiness, depression, anxiety, and stress. We wanted to measure mental health as an 'outcome' variable in the model, considering that personal growth should enhance mental health outcomes. We did not opt for all the same well-being variables as in the PGP model, instead deciding to measure of happiness as representing hedonia in the model. Kern et al.'s (2016) EPOCH scale was used for this due to it being a highly valid measure for adolescents. The happiness subscale, which comprises 4 items, was used. The other subscales were deemed less important, given that eudaimonia is accounted for by the model already (through self-awareness, self-compassion, and authenticity). The answers are given on a 5-point Likert scale ranging from 1 (*'almost never'*) to 5 (*'almost always'*). The DASS (Lovibond & Lovibond, 1995) was used as a measure of psychopathological symptoms. The scale has the subscales of depression, anxiety and stress and consists

of 21 items. The answers range on a 4-point Likert scale from 0 (*'did not apply to me at all'*) to 3 (*'applied to me very much').*

Data analysis

Prior to the main analysis, the data were screened for violations of assumptions, without any major violations found. Some missing data was found, but Little's MCAR test was performed indicating that the missing data was not related to any constructs in the model.

Structural equation modeling (SEM) using the lavaan package of R was used for the main data analysis. The goodness of fit of the model was estimated using the χ^2 statistic, root mean square error of approximation (RMSEA), Tucker-Lewis Index (TLI), comparative fit index (CFI), and standardized root mean square residual (SRMR).

Results

The results of the SEM analysis indicated that the model fit the data well. The whole model, however, was not supported since the mediated relationships were non-significant. Therefore, hypothesis 3 (H3) was not supported. However, we did find support for the other hypotheses. We found support for H1: social relatedness had a positive association with the aspects of sense of self (self-awareness, self-compassion, authenticity) and happiness, but a negative association with mental distress. We also found support for H2: the relationship between social relatedness and authenticity was fully mediated by self-awareness and self-compassion (see the Figure 1 below for these relationships). The full model results are shown in Figure 2.

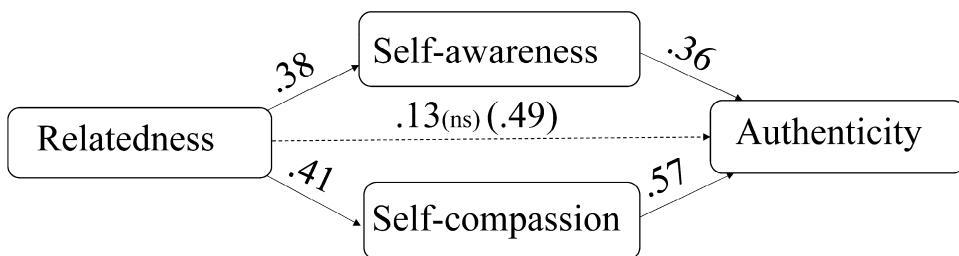


Figure 1. Testing portion of the sense of self model without the outcome variable of mental health, with standardized coefficients (β) between variables

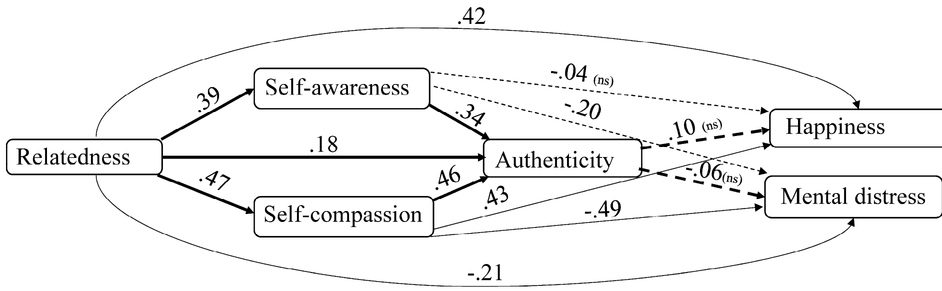


Figure 2. The model of sense of self showing the direct effects with standardized coefficients (*β*) between variables

Contributions

This study contributes to the literature on adolescent mental health and sense of self. A model for adolescent sense of self was suggested and tested cross-sectionally. However, considering that the whole model did not show good fit, as we had expected, it remains an open question whether these self-processes do contribute to adolescent mental health or not. It may be that adolescents' sense of self is such a complicated process that distress and happiness co-occur in equal amounts in adolescents, and therefore there is no definitive result as to the positive effect of the sense of self model. Additionally, it may be that the common variance for the whole model was too high for authenticity to be significant. Further studies are needed.

However, this study does suggest that an inclusive and supportive social environment with social relatedness is important for adolescents, and conducive to the development of self-processes, including self-awareness and self-compassion, which are in turn related to higher authenticity. The route from self-awareness and self-compassion to authenticity should be further studied using longitudinal designs to see if authenticity is truly promoted in this way. The relationship that these self-processes have to mental health has to be further studied as well.

Discussion

Summary of main suggestions and findings

The thesis provides positive psychology a number of theoretical and empirical contributions. The theoretical suggestions are mainly found in articles I and II. The first article suggests that the subfields of positive and humanistic psychology (specifically the OVP) can serve one another: while humanistic psychology offers holistic, comprehensive theories and a metatheoretical viewpoint, positive psychology offers a wealth of detailed empirical findings, operationalizations of constructs and support for these holistic theories. We suggest that the Rogerian OVP can serve as an overarching theory of personal growth, i.e. well-being growth, for the field. Furthermore, the suggestions inherent in the OVP are supported by findings from positive psychological research.

The second article develops the idea of the first article by suggesting a model of personal growth based on the OVP, called the PGP model. It explicates personal growth as a dynamic and gradual process of psychosocial change, among which are entailed: self-awareness, openness towards experience and change, autonomy, existential courage, responsibility, self-compassion, compassion, authenticity, harmony, and life satisfaction. The personal growth process is suggested to be a process whereby skills for well-being are developing. This article introduces the suggested model and discusses its main implications.

The third article is a validation study of the Swedish version of the Multidimensional Adolescent Well-being scale (EPOCH; Kern et al., 2016). The psychometric properties of the EPOCH scale were good, suggesting that it can be validly used with Swedish youth.

The fourth article is likewise empirical. It looks at dual-factor mental health profiles among Swedish adolescents and identified five unique profiles: complete mental health, moderate mental health, vulnerable, symptomatic but managing and troubled. It furthermore investigated how environmental sensitivity and coping self-efficacy were related to these profiles. Some support for the differential susceptibility hypothesis (Belsky & Pluess, 2009) of environmental sensitivity was found. Coping self-efficacy was higher in the complete mental health profile and related to positive mental health outcomes. Moreover, pandemic distress was not related to the profiles, but was relatively high overall.

The fifth and final empirical article investigated adolescent positive sense of self, and how it may be related to mental health outcomes (psychopathological symptoms and happiness). The main model was not supported. While this study and the variables chosen were inspired by the PGP model, the actual data we obtained was not longitudinal and therefore we could not infer growth processes. Instead, we opted to discuss adolescent self-processes and mental health. Aspects considered important for a healthy sense of self in adolescence were self-awareness, self-compassion, and authenticity. Furthermore, such processes need to be supported with a good interpersonal atmosphere (psychological safety). The relationship between social relatedness and authenticity was fully mediated by self-awareness and self-compassion, suggesting that authenticity is supported by these two self-processes in a warm interpersonal atmosphere. The whole model with the suggested mediation relationships between relatedness and mental health through the self-processes was not supported, however. It is possible that sense of self is not 'positive', meaning that it is not related to higher levels of mental health. This result needs to be further studied, perhaps with an older adolescent sample, for whom the concept of authenticity might be developmentally more appropriate.

Main contributions

The main contributions of this thesis may lie in its theoretical suggestions. Two out of the five articles are theoretical, suggesting 1) collaboration and integration between the subfields of positive and humanistic psychology (article I), and 2) a process theory of personal growth called the PGP model (article II). These theoretical contributions bring needed clarity in the areas of personal growth and the development of well-being, the collaboration and integration of positive psychology with more holistic theories such as the OVP. Therefore, this thesis is suggested to fit well in the so-called 'third wave' of positive psychology, which has been described as research inquiry that emphasizes, among other things, a) different ways of knowing, and b) integration of theories and collaboration of subfields and interdisciplinary work (Lomas et al., 2021).

A theory of well-being change, i.e. personal growth, can contribute to the field in multiple ways: 1) it can bring together holistic theories of humanistic psychology with empirical perspectives of positive psychology, enhancing co-work and integration and resulting in broader perspectives; 2) it can inform practical attempts to support well-being, such as school-based interventions or therapy, by increasing our understanding of the processes that individuals undergo when they grow; 3) it helps us understand the possible mechanisms of well-being change.

Regarding the implications for practically supporting well-being (number 2 above), currently there is no theory of well-being change for evaluating interventions such as those used in positive education (Norrish, 2015). The aim of positive education is to enhance student well-being at school. However, the ways in which well-being might be enhanced is not well understood and thus cannot be specifically targeted in positive education interventions. A model that attempts to explicate the different needs (e.g. psychological safety), processes (e.g. self-awareness) and outcomes (i.e. authenticity) of personal growth, i.e. the PGP model, may be a good basis from which to design and evaluate future attempts at enhancing well-being (personal growth) in the classroom. Particularly older adolescents (above 17 years of age; Harter, 2012) might be prone to engaging with the personal growth process; thus, they may be a particularly interesting population to study. Furthermore, this theory would implicate that the social environment marked by psychological safety is in fact the basic need upon which such interventions should be built. It therefore emphasizes the fundamental importance of the social context, an aspect that might easily be ignored by positive educational interventions (see Ciarrochi et al., 2016).

The empirical articles in this thesis also add to depth to the study of adolescent mental health and well-being in Sweden. One of the contributions is the validation of an adolescent well-being scale (EPOCH; Kern et al., 2016) in Swedish. This is important because it offers a multidimensional well-being scale previously unavailable in a Swedish context. Such a scale is valuable in evaluating the impacts

of systematic efforts to promote adolescent well-being at school in Sweden, particularly those that relate to positive education (e.g. Kern et al., 2016; Norrish, 2015).

Article IV contributes to a better understanding of adolescent mental health profiles in Sweden during the pandemic. Although mental health trends in Sweden have been negative since the 1980s (Schierenbeck & Karlsson, 2018), article IV shows that the majority of students are faring rather well. However, a minority of students still show clinical levels of symptoms, which was more prevalent among those identifying as ‘girls’. These results replicate those of previous studies (e.g. Prowse et al., 2021) about the higher prevalence of mental health problems among people identifying as ‘girls/women’.

At the same time, the article contributes to our understanding of environmental sensitivity among adolescents – we found tentative support for the differential susceptibility hypothesis (Belsky & Pluess, 2009) of environmental sensitivity, suggesting that it may be simultaneously a vulnerability factor among adolescents as well as positively related to well-being (through aesthetic sensitivity). Interventions may therefore account particularly for adolescents who are highly sensitive, such as by targeting their aesthetic sensitivity – utilizing art and music – as it might enhance their levels of well-being. This would require further study.

Although distress during the pandemic was rather high among students, some students did not appear to report a major change in their distress levels since the start of the pandemic, and pandemic distress was not related to any of the mental health profiles. This suggests that the pandemic, as a globally relevant crisis, may have had a similar influence, regardless of their current mental health – a finding that is rather interesting and is contrary to expectation.

Overall, the findings of article IV contribute to a deeper understanding of how mental health manifests among adolescents in Sweden. The findings emphasize the importance of utilizing dual-factor model of mental health, which allow for much more nuance in the ways in which mental health manifests among adolescents. This nuance is useful for designing and implementing more targeted interventions.

Article V contributes a deeper understanding of adolescents’ sense of self in Sweden. While the sense of self model did not show significant relationships to better mental health (lack of symptoms and presence of happiness), we still found support for the sense of self model without the mental health outcomes – a relationship between social relatedness and authenticity mediated by self-awareness and self-compassion. The relationship between self-awareness, self-compassion and better mental health is important, given that self-awareness has been suggested to have a negative influence when it manifests as self-criticism or rumination (Orchard et al., 2021; Roberts et al., 2021) and may be detrimental to mental health in the long term (Roberts et al., 2021). By contrast, self-compassion has been shown to be particularly important for adolescent well-being and mental health in previous

studies (Neff & McGehee, 2010; Marsh et al., 2018), especially when coupled with higher self-awareness as it relates to higher levels of authenticity. Adolescents are forming their relationships to themselves during this critical developmental period, and it seems that becoming more able to understand oneself, one's emotions, thoughts, and behavior is important for authenticity. We might speculate whether self-awareness and authenticity are in fact neutral when it comes to mental health – both might be related to positive and negative outcomes during adolescence depending on the situation. Self-awareness can be positive, but also excessive and ruminative (Roberts et al., 2021), whereas authenticity may be a positive expression of the self, but also possibly cause distress when adolescents attempt to fit in with peers (see article V for this suggestion). These suggestions need further study.

Furthermore, article V suggests that a social environment marked by satisfaction of the relatedness need, or high levels of psychological safety, is important for adolescent sense of self. The main contribution of this study may be its support of the importance of the social environment for adolescents' sense of self. Furthermore, the results allow for tentative speculation on the way authenticity might develop – once embedded in a warm social environment, the adolescent may engage in self-awareness and self-compassion that can lead towards authenticity. This suggestion is only tentative, however, given the cross-sectional nature of the study. It is worthy of future investigation.

Strengths and limitations

One of the main strengths of this thesis are its many implications for theory, as discussed previously. Furthermore, each study in the thesis has its own strengths and limitations. Article I particularly contributes to theory development, in that it aims to integrate positive and humanistic psychology, suggests a metatheoretical viewpoint for positive psychology, and explores how well-being can be seen as a process of personal growth. Furthermore, it shows that Rogers's (1961) theory has been indirectly supported through positive psychological research. A limitation of the first article is its limited scope – it does not discuss humanistic theories more generally or take into account other theories of personal growth.

Article II has likewise theoretical strengths, particularly in contributing to theory development. It suggests a new model of the process of personal growth, based on Rogers's (1961) work, and supports the subprocesses of this model utilizing findings from positive psychology. However, a limitation is that the article does not support the model with any direct empirical evidence. The model is solely based on Rogers's (1961) earlier theories and observations as well as recent positive psychological research. More direct evidence is required. Moreover, a more thorough discussion of personal growth within the well-being literature is lacking due to space limitations.

Article III has the strengths of a large sample size and very clear-cut validation results – the psychometric properties were good, and all items loaded onto their corresponding subconstructs. Internal consistency and criterion-related validities were likewise good. However, a limitation in the study is the limited scope of the criterion-related validity – because the dataset used only had one other measure of positive youth functioning, coping self-efficacy, the criterion-related validity is sparse.

Article IV's strengths include its rather large sample size and use of latent profile analysis as the preferred analysis method over cut-off scores (Moore et al., 2019). Moore et al. (2019) discusses how cut-off scores can force the data into a four-profile solution that may not reflect reality. Latent profile analysis (LPA) is a person-centred analysis method, and we considered it preferable in our study, following Moore et al.'s (2019) recommendations.

The limitations of article IV are, for instance, the use of retrospective reporting. It may have been difficult for students to think back to before the pandemic (2 months prior). We used this method since we wanted to have a clear difference between the mental health profiles and pandemic distress, which we measured separately. We attempted to ameliorate this limitation by adding additional analysis of a previous dataset from students of one of the same schools back in 2016 on their levels of mental health symptoms. The mental health symptoms were found to be worse (higher) in the 2016 sample than in the 2020 sample, suggesting that students in

2020 did not overestimate their mental health symptoms prior to the pandemic. The opposite might have happened, however, students overestimated their levels of functioning prior to the pandemic as they may have compared it to their current levels.

Article V's particular strength is its contribution to the understanding of some of the personal growth process – the formation of the sense of self – in adolescence using a mediation model, even though the main model was not supported. The limitations of this study are its cross-sectional nature and smaller than desired sample size. Moreover, the way in which we measured authenticity was a limitation. The authenticity scale (Wood et al., 2008) was originally meant for adults, meaning it might have been somewhat developmentally inappropriate for the adolescent sample. Therefore, a new measure geared specifically towards adolescents should be developed. This study was originally meant to be longitudinal, however, due to the school's schedules, data collection at T2 was delayed and turned out to be too late for the thesis. Therefore, we opted to use only the cross-sectional data from T1 and test the theoretical model's fit on that data. It is not ideal to use structural equation modelling with mediation relationships on cross-sectional data, given that mediation often implies a sequential causal order, and causality in cross-sectional data cannot be easily inferred (Cole & Maxwell, 2003). Therefore, we opted to examine the relationships of variables relevant for a positive sense of self, for which cross-sectional data is adequate, rather than the PGP model.

Ethical considerations

Mental health can be a sensitive issue, especially when it comes to adolescents. Some adolescents might have felt discomfort answering the surveys and reflecting on their well-being and mental health. We attempted to ensure that students knew their participation was completely voluntary and discontinuation was completely acceptable, should they so wish. We also made clear that in case students wanted to withdraw their answers later on, they could contact us. Students were assured that their data would be kept pseudonymized and confidential, so that no outside party (or school and home) would gain access to their personal data, ensuring that students would feel more comfortable answering the surveys as honestly as possible. Furthermore, we told all students that their personal data was never to be analysed separately so that individuals could be identified; rather, the data was to be analysed as aggregate groups, to ensure that students would feel more secure that they would not be singled out. Students were also informed that the data could be used in future scientific publications and presented in scientific conferences, but that even in such cases no individual would be singled out from the aggregate data. Since the students were above the age of 15, they could provide their own informed consent. However, we made sure that all parents and the schools had been informed of the study well before data collection. It was furthermore ensured that all students would know they could turn towards a supportive adult in their school in case they needed some extra assistance with regards to the issues of mental health and well-being that might have risen from the survey participation.

Given that in Article IV we found that a significant minority of the students had severe levels of psychopathological problems, we informed the participating school of the general findings, without of course revealing or singling out any of the individuals' responses and data. Therefore, the school was knowledgeable of the detrimental results in a minority of their students and had the opportunity to monitor and help students who appear to be struggling.

Future research directions

Because the topic of this thesis changed almost halfway through the thesis period due to the pandemic, empirical exploration of one of the main concepts, personal growth, was not possible. In the future, it would be fruitful to empirically test the PGP model using longitudinal designs and a mixed-methods paradigm. The qualitative arm could include, for example, in-depth interviews with people who have gone through personal growth. This research could be done either deductively with the PGP model as a theoretical framework, testing its support, or inductively without the PGP involved as a framework, going from the data to build a model based on the participants' own takes on personal growth. Inductive research might be more interesting to clarify how people who identify as having grown would describe the process and what type of a model could be built from their experiences (which may or may not support the PGP model). Going even more deeply into the lens of inductive research (attempting to not be influenced by the PGP model in the process) could involve the use of grounded theory.

For the quantitative arm, much could be done. For instance, since we have suggested a close link between the PGP model subprocesses and concepts within positive psychology, in Article V while we studied adolescents' sense of self as unrelated to the PGP model, in reality the choice of variables was based on the PGP model (a simplified version of the model). We operationalized the 'simplified version' of the model with some of these concepts using the measurement scales developed by other researchers. However, measuring all concepts in that way is not ideal, given that the concepts do not necessarily match the meaning of each subprocess in the PGP model precisely. For example, we operationalized self-awareness in the PGP model as the mentalizing the self subscale of a measure of mentalization (Dimitrijević et al., 2018), as this scale was the closest representation of self-awareness as defined in the PGP model. However, it still lacks aspects of self-awareness. Similar issues relate to our operationalization of authenticity in the PGP model as authentic personality (Wood et al., 2008). In essence, multiple creative leaps had to be made in order to test a simplified model of the PGP model for the purposes on this thesis. In the future, to develop the PGP model further, we might directly operationalize all its constituent subprocesses using measurement scales developed specifically for those constructs. Furthermore, the connections suggested between the constructs within the PGP should be further explored, such as the fundamental role of psychological safety and the key role of self-awareness.

Furthermore, creating concrete guidelines on how to promote psychological safety in the classroom or otherwise in practical settings as well as designing an intervention to support the aspects of the PGP model would require much more theoretical and empirical work to be done. It could be a fruitful endeavor to include, for example, teachers and students into planning and designing such aspects in the intervention, getting them to brainstorm and suggest their views for how practically

psychological safety and personal growth could be promoted. An approach where students and teachers are involved and listened to in the designing process of a school intervention might improve buy-in, legitimacy, and motivation to engage with the intervention (see e.g. Clement, 2014; Martinez et al., 2019; Byrne & Carthy, 2021).

A number of open questions regarding adolescent mental health profiles remain. We did not find a symptomatic but content profile, but instead a symptomatic but managing profile. Does this mean that, among adolescents, high psychopathological symptoms do not co-occur with high well-being? This is an important question to be addressed given that it may help adolescents who suffer from mental health problems to know that they still can have high well-being. I believe the issue is related to the ways in which well-being and psychopathological symptoms are measured. If the symptoms are measured as current states (an ongoing problem) then well-being might not co-occur if measured as states (such as hedonia). However, if well-being is measured more as capacities, such as eudaimonia, simultaneous occurrence may be more likely. Similarly, if psychopathology is measured as previous diagnosis, the co-occurrence with well-being may be more likely. Such nuances in measurement of mental health profiles should be more thoroughly explored and discussed, given that they might have important implications for struggling adolescents.

With regards to the adolescents' sense of self, future research could investigate whether the suggested model of sense of self truly is not related to better mental health in an older adolescent sample, to further clarify the present results. Furthermore, a future study could investigate whether the model of the sense of self develops throughout the suggested mediation paths over time in longitudinal studies. That would make the study of adolescents' developing sense of self into a developmental model. Furthermore, the whole suggested PGP model could be tested in adolescents over time – does personal growth develop through the suggested subprocesses in adolescents? Another open question is when can personal growth be said to 'start' in adolescence? As Harter (2012) suggests, sense of self becomes more integrated and authentic in late adolescence (after 17 years of age), but would some aspects of the personal growth process, such as aspects of self-awareness, openness towards experience and change, existential courage, responsibility, autonomy etc. already show themselves earlier in development? These are all open questions regarding adolescent personal growth.

General conclusion

The study of personal growth as the process whereby one's capacity for and level of well-being enhances over time still has a rather thin research base. The phenomenon is often approached from a proximal perspective whereby personal growth is something that happens alongside other phenomena, such as motivation, goal setting, retrospective narratives, or need satisfaction. The actual process of change during personal growth is not yet well understood – a shortcoming that this thesis aimed to ameliorate. Furthermore, the combination of theories within the field of positive psychology together with more holistic theories of humanistic psychology is still rather contestant, although gradually becoming more accepted (e.g. Kaufman, 2020). The question of how to support the development of well-being, or personal growth, in the classroom is a complicated one. Adolescent well-being and mental health, including their personal growth, need to be studied in more depth and nuance.

This thesis aimed to answer some of these challenges by exploring the topics of personal growth, well-being, and mental health theoretically as well as empirically among Swedish adolescents. It contributes to the field through its theoretical contributions of suggesting a collaboration between the fields of positive and humanistic psychology, a possible metatheory for positive psychology and a model of personal growth. Its empirical contributions focus on adolescent well-being and mental health, finding five mental health profiles and their connection to environmental sensitivity and coping self-efficacy in Swedish adolescents. The thesis also enhances our understanding of adolescent sense of self, including suggesting a model for this process.

The development of well-being is a gradual process consisting of multiple psychosocial changes. This process is not clearly related to age but may be more likely to start in adolescence, a time where multiple psychosocial changes are already occurring, including the formation of identity and development of various skills relevant for well-being (e.g. Berk, 2004; Harter, 2012). Therefore, the study of personal growth and mental health is relevant for adolescents. It is possible that it is more relevant for adolescents who are older than in our article V (who were on average 16 years of age). Adolescents may benefit from an inclusive social atmosphere of psychological safety (or relatedness) whereby they are supported simultaneously in the development of the key changes in personal growth relating to a good sense of self – self-awareness and self-compassion. Adolescent sense of self, therefore, can be suggested to include in it various processes such as ability to understand the self (self-awareness) coupled with higher levels of self-compassion, which helps to avoid rumination and ensures benefits to well-being. Furthermore, adolescents may want to feel authentic in themselves. However, the way in which adolescent authenticity is measured should be further developed, and the relationship that sense of self has to mental health requires further study. Adolescent

mental health is a multidimensional, complicated process manifesting in multiple different types of mental health profiles with different associations to coping self-efficacy and environmental sensitivity. Highly sensitive adolescents, as well as girls, are more likely found in the more detrimental mental health profiles, suggesting that they would need some targeted help at schools. A deeper understanding of well-being processes among adolescents as well as adults is called for.

In conclusion, understanding mental health and well-being as complicated processes of gradual change, i.e. personal growth, may be a necessary basis for better understanding how to promote well-being in practice, such as through positive educational school interventions or in therapy. I see this thesis as located in the third wave of positive psychology, given its focus on collaborative work, its suggestion of a metatheory for well-being, and its use of integrative theory development. This thesis can be considered a first step towards understanding the process of how well-being develops while also contributing to our understanding of other well-being processes. Future research should focus on clarifying how such processes unfold and how this unfolding can best be supported.

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Article I

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REVIEW
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Revisiting the Organismic Valuing Process Theory of Personal Growth: A Theoretical Review of Rogers and Its Connection to Positive Psychology

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Humanistic and positive psychology have had a contentious past. Initially, positive psychology researchers have distanced themselves from humanistic psychology, proceeding to build an array of differentiated constructs relevant to an empirical study of well-being. Twenty years on, it is now generally acknowledged that humanistic psychology is the theoretical predecessor of positive psychology in terms of holistic growth theories. In this theoretical review, we aim to show how Carl Rogers' organismic valuing process (OVP) theory can serve as a holistic framework for individual positive psychological research findings and theories and how positive psychology, in turn, provides empirical support for this meta-theoretical framework. An important motivation for considering personal growth as a process that integrates various aspects of well-being is theoretical integration, which can help us better understand how well-being develops in individuals across the lifespan. Some theoretical and practical implications of incorporating OVP theory into well-being research are also suggested.

Keywords: organismic valuing process, personal growth, integration, humanistic psychology, positive psychology, well-being

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INTRODUCTION

Positive psychological research on well-being has been accumulating since the field's inception in the 1990s, which has considerably enhanced our understanding of the concept of "flourishing" and the constituents of the "good life." Several decades previously, in the 1950s, humanistic psychology provided pioneering research and theory on the positive aspects of human life. Both of these fields have aimed to further our knowledge and understanding of the conditions of the good life, human well-being, and positive institutions. However, despite their similarity in aims, some researchers (particularly those in positive psychology) perceive them to have conflicting philosophical foundations (e.g., Waterman, 2013). As suggested by Friedman (2008), the biggest conflict between humanistic and positive psychology is their differing epistemologies and methodologies. Positive psychology is based on a logical positivist epistemology, emphasizing reductionism and quantitative research methods, whereas humanistic psychology is based on a holistic (subjectivist) epistemology, is antireductionist, and uses mainly qualitative methods (Friedman, 2008). Initially, Seligman and Csikszentmihalyi (2000) suggested that humanistic psychology lacked the empirical research basis of positive psychology. A more exhaustive account of this divide is beyond the scope of this article but has been discussed elsewhere (see Friedman, 2008; Waterman, 2013). However, some

researchers have recognized that the two approaches have more similarities than differences (e.g., Joseph, 2015; Proctor et al., 2015) and that integrating these fields can only benefit them (e.g., Wong, 2011b; Kaufman, 2020). In line with these favorable developments, in this article, we seek to show how a humanistic meta-theoretical perspective on well-being as a process—namely, Carl Rogers' (1959, 1964) organismic valuing process (OVP)—can serve as a holistic framework for individual positive psychological research findings and theories. Furthermore, we aim to show how positive psychology (along with some other subfields, such as attachment theory) provides empirical support for this meta-theoretical framework. In this way, both fields can support each other and draw from each other's strengths.

What, however, would motivate us to revisit the OVP theory for growth toward well-being? One major motivation is theoretical integration, which would help us better understand how well-being develops in individuals across life. The case for theoretical integration was also made by Magnusson and Törestad (1993) in their description of how the progression of scientific understanding follows two main stages: (1) differentiation of knowledge, or building an ever greater and more nuanced understanding of individual concepts and constructs in an area of inquiry (in their case, the area was personality research), and (2) integration of this nuanced knowledge into more holistic theories whereby the ways in which the individual components are interrelated can be better understood as a holistic, unfolding process of growth. While positive psychology has been doing an impressive job with regard to the first stage, so far, the second stage has received little attention. By revisiting OVP theory, it might be possible to integrate our knowledge on different aspects of well-being to get a holistic picture of individual growth across life.

First, we will describe the main assertions of OVP theory and its components. Second, we will discuss recent positive psychological evidence in support each of these assertions. Finally, we will describe possible implications of incorporating the OVP theory into well-being research, particularly in applied contexts where well-being and growth are being promoted.

PART 1: MAIN ASSERTIONS OF THE ORGANISMIC VALUING PROCESS THEORY OF GROWTH

The OVP is a holistic growth theory that encompasses motivation-based theories of well-being (i.e., goal pursuits and self-determination), explains how the emotional and cognitive process of growth unfolds as an embodied "moment of movement," and describes how this process is crucially affected by socioenvironmental conditions as well as changes in one's way of relating to the outside world (Rogers, 1959, 1961, 1964).

As discussed by Rogers (1961, 1964) and summarized by Proctor et al. (2015), the OVP theory captures the way in which an individual gains a different way of relating both to the self and outer social world, and how the social context can nurture or stifle this process. In the following passages, the OVP theory of growth is briefly summarized by discussing its seven main assertions.

The Actualizing Tendency

According to the OVP theory, all organisms (individuals) are naturally motivated toward growth, both physically and psychologically (Rogers, 1961, 1964). Such psychological growth, however, does not merely encompass learning cognitive skills but also growth toward greater well-being (becoming "fully functioning" in Rogers' terms).

The actualizing tendency refers to an active push for the organism to improve itself via better organization, fulfillment of its potential, and growth. Psychologically, the actualizing tendency manifests as greater personal growth—initially, as a greater understanding and connection with the self (Rogers, 1959, 1961, 1964). Gradually, the individual learns to be open toward their own reactions within a given situation and be capable of openly observing and understanding how they react and feel. This transparency of emotions and thoughts might at first be frightening, but over time, the individual learns to accept the fluctuating reactions and can recognize the underlying assumptions that they have created in order to construe different situations in their lives (Rogers, 1961). They, in other words, learn to communicate with themselves and gain insight into their own "phenomenal field" (i.e., internal working models). This connection with the self can gradually become the primary force when support has been established; that is, one learns unconditional positive self-regard. Furthermore, a place of greater inner security can release greater compassion toward others. This entire actualizing process is not fast and requires great openness and self-awareness (Rogers, 1961).

Conditions for Growth: A Psychologically Safe Atmosphere of Unconditional Positive Regard, Empathy, and Congruence

In order to elicit the actualizing tendency, the qualities of the psychosocial environment play a crucial role. Both the growth process and the organismic valuing process require favorable conditions (Rogers, 1961) particularly the esteem of another person without conditions of worth (i.e., imposing external demands and pressures for one to be accepted). Conditions of worth are viewed as the source of psychopathology (Rogers, 1959, 1961). They refer to external demands of one's worthiness, or the idea that one is only worthy of love and belonging once one has fulfilled certain demands.

Rogers (1959) named the necessary and sufficient conditions for a person to start engaging with their organismic growth process: first, congruence, or genuineness—the growth-facilitating atmosphere is one in which there is a transparency of experience and expression, genuine presence. The second condition is unconditional positive regard, or the sense of appreciating the other as the whole of who they are—appreciation for one's intrinsic worth. The third condition is empathic understanding, namely, the ability to reflect someone else's inner experience, to attentively listen and see the world from that other's frame of reference, and to feel seen and heard (Rogers, 1961). Essentially, the individual needs to feel psychologically safe. In such conditions, no mental energy

is devoted toward self-protection, allowing the energy to be allocated toward one's own growth process.

Congruence: Openness to Experience and Learning to Trust the Self

When embedded in a *psychologically safe atmosphere*, an individual would feel enough trust to gradually dare to open themselves up toward their self, listening to the inner processes and becoming more self-aware, particularly of one's emotional and cognitive movement. This process is ultimately vulnerable, making trust essential. Such openness to one's experience and listening to the self can lead to a greater understanding of the self and one's inner communication (Rogers, 1961). Here, the embodied nature of emotions becomes relevant: through this open communication of emotions to the self, individuals can learn to make clear differentiations of their emotions, such that they are able to seek a precise referent to describe that emotion (Rogers, 1961). This differentiation can gradually form into a trust of one's emotional reactions and a sense of greater understanding of the self. The person can gradually approach a state of congruence between their actual experience and their awareness thereof, as well as exhibit greater outward behavior expressing this congruence (Rogers, 1961).

What this trust additionally entails is a greater acceptance of all the various emotions and reactions that one exhibits. Particularly, it involves accepting those negative states, unfavorable views, fears, and worries as the genuine and authentic representation of one's organismic experiencing (Rogers, 1961). This is an important aspect of trusting the self: that is, that even difficult emotions are our "friends," signaling important ideas, and can be dealt without fear.

Congruence: Autonomy, Responsibility, and Becoming Who You Are

According to Rogers (1961), *an openness and trust of the self* can arise prior to or at the same time as the ability to set the locus of control within the self and become autonomous with one's decisions and directions in life. Additionally, in setting the locus of control within the self, the individual realizes that they have personal responsibility over their own well-being (Rogers, 1959, 1961). This creates a stronger sense of autonomy, or the belief that one is not a passive victim of circumstances but rather an active force. This stage is therefore one of empowerment of the individual as an autonomous responsible agent (Rogers, 1961). The direction one takes is therefore more internally driven and can express the self more. These changes occur as "moments of movement," or inner realizations during which something represented in the mind becomes connected with the organic experiencing of the body, and a process of insight occurs when an organic realization becomes a part of the person's way of representing the self and things in the world.

Ability to Be a Process, Not a Product: Motivation to Grow Along With Life

When one *feels open to their experiencing, has a good understanding of oneself, feels more autonomous in one's pursuits and values,* and *trusts in the self*, one learns to be more open to life's fluctuations without needing instant closure (Rogers, 1961). This means that one can openly find harmony within the fluctuations of life, accepting oneself as a process of becoming rather than a finished product (Rogers, 1961). Furthermore, one embraces change in a vulnerable way rather than seeking safety and closure in rigid patterns of categorization (Rogers, 1961). The security once obtained from a secure social environment becomes, at this point, an inner security, which can serve as a source of courage to face life with all its ups and downs.

The Prosocial Dimension: Compassion for the Self and Others

Ultimately, this *process of connection and acceptance of the self and one's emotions* generates an openness toward other people, which manifests as prosociality and greater acceptance of others (Rogers, 1961, 1964). This occurs because the individual no longer fears external threats as much and no longer feels a need to act defensive toward threats to their self-worth, since this worth has become an inner source of security. Such security in turn allows the individual to more readily approach and connect with others with compassion. Rogers (1964) suggested that a person in touch with their organismic growth process can more readily and heartily wish for the well-being of others and the whole world. Accordingly, Rogers's (1964) view of the individual is based on a positive notion, namely, that a person with high well-being and a strong connection with their growth process values the well-being and growth process of others.

The Fully Functioning Person

The *process of openness, self-connection, authenticity,* and *vulnerability* ultimately leads to greater well-being for the individual. Upon realizing that the *locus of control* resides within the self, the individual *perceives the personal responsibility that they have over their own well-being*. A person who is in touch with their organismic valuing process is congruent (and feels authentic) and has high levels of unconditional positive self-regard, openness to experience, and compassion and can be considered fully functioning (Rogers, 1961), that is, in a state of optimal psychological and social functioning.

To summarize, the organismic growth process is a theory of necessary change (following the Aristotelian philosophy of necessary and accidental change; see Overton, 1984) whereby the organism naturally matures through a number of psychological stages toward greater well-being. However, although this change is "necessary," its rate is largely dependent on various social conditions that nourish growth (see Rogers, 1961, 1964). Therefore, the theory is also embedded fundamentally within a social context and is not merely individualistic (Rogers, 1959, 1961, 1964). Furthermore, the theory is based on the concept of holism or the notion that the change process is not solely a process of mechanistic growth of additive positive effects; rather, the stages described above interact and do not progress sequentially (see Rogers, 1961). This means that the theory does not lend itself to clear developmental stages but postulates the existence of necessary mental shifts, or moments

of movement, that ultimately lead toward the goal of becoming fully functioning.

THE FULLY FUNCTIONING PERSON AND OTHER HUMANISTIC-EXISTENTIAL THEORIES

Other humanistic-existential theories of the "fully functioning" state rely on the concept of self-transcendence. The existential and humanistic psychologists Frankl and Maslow refer to self-transcendence as either the ultimate need (Maslow, 1971) or as the "essence of existence" (Frankl, 1966, p. 104). Self-transcendence can be defined as the transcendence of one's ego, accepting the natural world, and moving beyond dichotomies such as us vs. them (see Maslow, 1971; Kaufman, 2020). Kaufman (2020) provides a more recent definition of self-transcendence: "Healthy transcendence is an emergent phenomenon resulting from the harmonious integration of one's whole self in the service of cultivating the good society" (Kaufman, 2020, p. 217). Healthy transcendence means being in harmony with the rest of humanity similarly than being fully functioning. Moreover, according to Wong (2016), self-transcendence is the act of becoming selfless and responsible over the welfare of others and the world, rather than self-involved. One of the main criticisms of Rogerian theory is that it is too individualistic; that is, it focuses too much on individual's self-observation rather than on community or social factors (see O'Dwyer, 2012). Therefore, at first glance, self-transcendence seems to offer quite a contrast to the self-observing- and self-awareness-promoting tendencies of growth suggested by the organismic valuing theory. However, a closer look suggests that the organismic valuing process also supports self-transcendence as the ultimate goal of growth. In the organismic valuing theory, becoming fully functioning is in essence a self-transcendent state—the individual becomes more compassionate and more concerned with the well-being of all life forms and the world, as well as takes responsibility their lives and other beings (Rogers, 1959, 1961, 1964). Therefore, the Rogerian theory also considers the social environment crucial for the growth process (accepting and genuine social environment, basic conditions) and that growth entails becoming more compassionate and concerned with the well-being of others and the world; thus, social factors are necessary preconditions and the outcomes of growth. Therefore, the organismic valuing theory could be seen as a theory of growth toward self-transcendence.

PART 2: POSITIVE PSYCHOLOGICAL RESEARCH SUPPORTING THE ORGANISMIC VALUING THEORY OF GROWTH

To further explore the OVP theory and connect it to current as well as earlier research within positive psychology, we discuss the main assertions of OVP theory described above in light of the current research.

The Actualizing Tendency

The first concept from OVP is that people are naturally motivated to self-actualize (i.e., to move toward greater well-being). A positive psychological theory called *self-determination theory* (SDT; Deci and Ryan, 2000) postulates a similar idea: given conditions that satisfy one's basic psychological needs (i.e., relatedness, competence, and autonomy), one will move toward greater self-connection and authenticity (called "intrinsic pursuits" in SDT, which parallel the concepts of "congruence" and "authenticity" in OVP). Joseph (2015) similarly discusses how SDT is based on similar theoretical assumptions of well-being as OVP. These assumptions include that the organism is geared toward growth in an active manner, the organism has the proactive ability to master their internal and external forces (i.e., not be deterministic), and that this growth process can occur when the social conditions for it are favorable. SDT, then, can be seen as directly supporting the metatheory of OVP (Ryan, 1995; Joseph and Murphy, 2013; Joseph, 2015).

The SDT combines an integrative organismic approach to human growth with a social-psychological perspective, whereby it is emphasized that people are influenced not solely by their internal organismic tendencies but also by the social context in which they are embedded. The concept of intrinsically motivated behavior—that is, doing things for pleasure or interest, and not external reward or persuasion—can be considered a behavioral operationalization of the actualizing tendency (Ryan, 1995). Ryan (1995) discusses how intrinsically motivated behaviors support this actualizing tendency (or organismic growth tendency), so long as the social environment is supportive of this and provides the individual with the basic psychological needs of autonomy, competence, and relatedness. In line with OVP theory, SDT suggests that the more intrinsic the behavior is, the more integrated it is with the self. In other words, the more autonomously motivated a person is, the less he or she is heteronomously, or extrinsically, motivated (Ryan, 1995; Deci and Ryan, 2000).

The SDT has ample support as a process of enhancing well-being. The satisfaction of basic needs has been shown to predict well-being in the context of sports (e.g., Ryan and Deci, 2001), school (as teachers' tendency to give autonomy support; e.g., Jang et al., 2016; Oga-Baldwin et al., 2017), work and organizations (e.g., Deci et al., 2017), and close relationships (e.g., La Guardia and Patrick, 2008), among others. A key point of SDT is how it distinguishes between different types of values (intrinsic and extrinsic values). Having goal aspirations based on intrinsic values is known to be predictive of higher well-being and positive affect, and lower levels of depression and anxiety, compared to aspirations based on extrinsic values (e.g., Kasser, 2002; Niemiec et al., 2009). Similarly, attaining intrinsic goals predicted higher well-being and greater ego-integrity in older adults (e.g., Van Hiel and Vansteenkiste, 2009). Sheldon et al. (2010) also found that having recently progressed in intrinsic goals predicted greater well-being. Overall, intrinsic values are clearly growth enhancing and support the OVP (Ryan, 1995; Deci and Ryan, 2000).

At times, however, people might not seem to be striving toward greater well-being (i.e., do not appear to exhibit the actualizing tendency), instead engaging in behaviors or habits

that harm their well-being. Such tendencies, according to Rogers (1961), do not disprove the existence of the growth motivation—instead, they are symptomatic of problems in people's ability to engage with their OVP due to conditions of worth. The impact of conditions of worth are evident in the study by Harter et al. (1996), who found that adolescents reported suppressing their true selves and altering their behavior to obtain approval when the support they received from their parents was conditional—in other words, they altered their behavior due to perceived conditions of worth. Likewise Kasser et al. (1995) studied young people's value orientations and found that less nurturing mothering was associated with lower intrinsic (i.e., self-enhancing) goal aspirations and greater extrinsic (i.e., externally placed) goal aspirations, suggesting that conditions of worth relate to remoteness with one's own OVP and a tendency to live according to extrinsic demands. In fact, many approaches to mental health consider that ill-formed self-concepts or belief systems create a self-fulfilling prophecy to undermine well-being; for instance, correcting such ill-formed thoughts is the goal of cognitive–behavioral therapy (Sanders and Wills, 2012). When the social environment has robbed an individual of their psychological safety, they can easily turn toward chaos and disorganization, such as in the case of insecurely attached children (see Siegel, 2001; Rees, 2008; we also describe attachment in greater detail in the next section).

Unconditional Positive Regard, Self-Acceptance, and Conditions of Worth

As discussed above, relatedness and connection are a fundamental psychological need (Siegel, 2001; Deci and Ryan, 2000; Brown, 2006, 2012; Fredrickson, 2013). However, the type of connection matters, as they can be either growth enhancing (unconditional positive regard) or growth stifling (conditional positive regard; see Joseph, 2015).

Conditional positive regard refers to valuing another person only when they fulfill a certain condition of worth, for example, showing affection toward one's child only when they have received high school grades (see Joseph, 2015). Conditions of worth, when internalized, are the birthplace of psychopathology due to their tendency to suppress a natural growth process and one's ability to be in touch with their authentic experiencing without shame.

Attachment theory illustrates quite well how conditional and unconditional positive regard can influence infants' attachment styles with their caregivers. Attuned and consistent communication patterns between the caregiver and infant predict a secure attachment style. Secure attachment refers to the ability of the infant to trust that their communication is attended to, and their needs are met with care. Securely attached infants and caregivers show synchrony and attuned communication and consistently reflect (or mirror) one another's expressions (see Siegel, 2001). Such communication patterns and touch encourage oxytocin release in both parents and infants (Feldman, 2012). Ainsworth et al. (1978) described the behavior of the securely attached infant as one of trust. They can courageously explore their surroundings, using the caregiver as a secure base to return to for comfort and safety. This is much like the security described by Rogers (1959, 1961) in the therapy sessions: creating a space of attunement, unconditional care, and psychological safety in which the client can develop the courage to start to explore their inner world. With psychological safety (i.e., unconditional positive regard), one can release and let go of a need to defend or protect the self against potential dangers (and thereby stay closed up) and thereby grow in courage to tune in with themselves and others.

Insecure attachment patterns, on the other hand, refer to unreliable patterns of care, positive resonance, and attunement (e.g., Rees, 2008). An infant who does not feel that their caregivers have attuned to them forms behavioral patterns of avoidance or anxiety to deal with the insecurity of receiving love (Rees, 2008). Such emotional neglect at an early stage can have numerous negative consequences, including impaired stress regulation ability, lower awareness of one's bodily signals and emotions, lowered sense of self-worth, distorted views of relationships (e.g., overdependence on others) and the self (e.g., low self-esteem and sense of a lack of independent competence), and a tendency to cling to sameness and security (see Rees, 2008). In light of OVP theory, emotional neglect might lead one to lose touch with their own OVP, leading to a remoteness from the self, potential psychological problems, and rigidity (i.e., clinging to safety and an inability to embrace the insecurities of change).

Siegel (2001) developed the idea of "interpersonal neurobiology," with emphasis on the fundamental importance of early attachment styles on the child's ability to form integrated connections in the circuitry of the brain, a coherent sense of self, and good interpersonal relationships. Siegel (2001, 2009) discussed human emotions as a complex system in which each component may come together to function as a unitary system, enabling more adaptive functioning. The opposite of this is the move toward greater rigidity, sameness, and disconnection, which is the basis of mental health problems. In this manner, attuned communication and highly secure relationships are building blocks of greater integration of the system's components and therefore are fundamental to mental health (see Siegel, 2001, 2009). Siegel (2001) suggested that experiencing positive regard in early communication can enable better self-regulation because it helps build coherence in the person's neural integration. In this way, interpersonal relationships shape our neural connections, giving rise to our primary sense of self—fundamentally, then, a resonant relationship can aid in the development of a congruent self, much in line with the Rogerian perspective (Siegel, 2001).

Brown (2006, 2012) found in her studies on well-being and shame that at the heart of well-being is the feeling of being worthy of connection with others. She postulates that the ability to reach out to truly connect with another requires vulnerability (i.e., emotional exposure), which in turn requires one to be able to lean into discomfort and have a sense of worthiness in doing so (Brown, 2006, 2012). The opposite of connection is the fear of disconnection—namely, shame. Shame stems from a sense of unworthiness and feeling that one cannot connect with other people. It is a debilitating emotion related to psychological distress (Brown, 2006, 2012). According to Brown (2006, 2012),

connection with significant others is the fundamental building block for a good life and mental well-being for the individual, and helps build a sense of worthiness.

On a similar note, Patterson and Joseph (2006) devised a scale for measuring unconditional positive self-regard to assess how therapy can help the individual find a sense of unconditional worthiness and self-acceptance. This relates to the Rogerian perspective in that, through a sensitive connection, individuals can gradually learn to turn the positive regard they receive from the other inwards. Unconditional positive self-regard refers to one's complete acceptance of the self, with all its complexities, with empathy, openness, and kindness. Patterson and Joseph (2006) found that it was related to higher psychological well-being and happiness. Flanagan et al. (2015) found that people who were higher on unconditional positive self-regard at an initial measurement point had higher levels of posttraumatic growth 3 months later.

Fredrickson (2013) discusses the embodied emotion of love, which she defines as micromoments of positive resonance between two people. This connection is something that Fredrickson describes as a fundamental need, and therefore, its presence and absence can have an important impact on one's life (Fredrickson, 2013). Love is the ultimate positive emotion, which creates an upwards spiral of positivity and brings well-being. Fredrickson (2013) studied love on a physiological basis and found that it is present in tiny moments of connection, wherein two people attune to each other and release the hormone oxytocin. At the level of brain activity, Stephens et al. (2010) found that when two people truly connect in conversation, their brains show extensive synchrony; this is similar to mirror neuron activity but on a larger level. The synchrony is much lower when the connection between the individuals is not as intense. According to Fredrickson (2013), this love can quite openly occur between any two people and can produce an upward spiral of growth and well-being (Fredrickson, 2013).

Openness to Experience and Learning to Trust the Self

The concept of learning to trust the self in the Rogerian sense (1961, 1964) involves being more in tune with one's inner communications, experiencing less fear of listening to and understanding this process, learning to listen to one's gut feeling, and finding a precise referent for one's experience (Rogers, 1961). Taken together, the process relates to greater awareness, acceptance, and understanding of one's inner processing. This can be equated to some degree with Baer et al. (2006) definition of mindfulness, that is, acting with awareness, responding with less reactivity (i.e., pausing before responding or reacting), and being able to find a clear referent (or label) for one's inner experience (i.e., able to distinguish mental processing), remain non-judgmental (i.e., able to free oneself from the automatic judging of situations), and observe the self with awareness.

Research on mindfulness provides ample evidence that the ability to turn inward, attune to one's bottom–up (bodily) processing, and pay attention to the present moment without judgment is associated with greater openness to experience (Adair and Fredrickson, 2015). Mindfulness—the degree of awareness and observation of the present moment—is both a state (enhanced in the moment through, for instance, meditative practice) and a trait (ability to be mindful; e.g., Stahl and Goldstein, 2010; Brown et al., 2011). Siegel (2009) discusses how mindfulness helps us reduce our focus on top-down processing (i.e., thinking, planning, analyzing etc.) and turn our attention to our bottom-up bodily reactions in any given moment, which involves utilizing our senses and letting go of the tendency to rationalize, make sense, categorize, or hold to preconceived notions (see Siegel, 2009, 2010). This view resonates closely with the process that Rogers (1961) described for greater personal growth, that is, the person learns to listen more closely to their inner reactions and communication, freeing themselves from their older construals (categorizations and beliefs) that previously guided their beliefs and actions. Consequently, they can open up to each situation and sense each moment as new. Such a person, therefore, does not judge each moment through a prior belief, memory, or category but rather openly embraces the unfolding moment (Rogers, 1961). Therefore, the fully functioning person in the Rogerian sense—who has grown according to their OVP—is likely to be a highly mindful person.

Koole et al. (2009) further suggested that mindfulness could aid in individuals' finding congruence between implicit (unconscious) and explicit (conscious) self-esteem. Implicit self-esteem refers to one's unconscious emotional evaluation of the self—if one implicitly feels good about the self and can explicitly describe themselves in a positive way, one's self-esteem is in congruence and balanced. By contrast, if one implicitly feels bad about the self, but has a positive explicit self-evaluation, they might develop narcissistic tendencies (see Koole et al., 2009). Koole et al. (2009) showed that practicing a short mindfulness intervention led participants to report more congruent self-esteem. This suggests that mindfulness can aid people in connecting with their bodily experience as well as consciously sense this experience. This is an example of what Rogers described as *congruence*, and it has since been found to be associated with high authenticity (see Wood et al., 2008a).

It is also important to mention that Rogerian therapy (1959, 1961) appears to facilitate mindful awareness, which is remarkable given that this construct was not widely known at the time of its development (in the 1950s). The fact that Rogerian therapy sessions were based on a person-centered, non-directive approach—in which the therapist did not lead the client, but rather the client was free to delve into their processing of their own inner information—seems to have induced a state of mindfulness. From a collaboration with Rogers, Eugene Gendlin developed *focusing*—teaching individuals to hold an open and non-judging attention to their "felt sense," an internal knowing that is directly experienced but has not yet been put into words (Gendlin, 1981), much like the skill of mindful attention. Focusing was later incorporated in emotion-focused therapy (e.g., Greenberg, 2006), in which emotions are seen as fundamental to the construction of self and self-organization; therefore, developing the ability to access them and alter maladaptive emotions is key (Greenberg, 2006).

Siegel (2010) also discusses the mindful therapist as being one who is attentively and sensitively present in the moment with the client and capable of attuning in with their client's inner processing. This sounds very close to the way in which Rogers (1959, 1961) behaved as a therapist, which was based on empathy, genuineness, and being closely attentive and present with the client.

The notion that mindfulness can also be induced through discussion, not merely meditative practice, is also discussed by Langer (1989) and Langer and Moldoveanu (2000). Langer and Moldoveanu (2000) defined mindfulness as the "process of drawing novel distinctions" (p. 1). According to Langer and her colleague, top–down processing (thinking, discussing, etc.) can be mindful if it involves the state of being in the present with an ability to be open, take into account differences in perspectives, and make new distinctions (Langer, 1989; Langer and Moldoveanu, 2000). Langer, therefore, defined mindfulness not as a bottom–up sensory experience but as a cognitive capacity. The Langerian mindfulness construct includes subcomponents of flexibility and the seeking and production of novelty and engagement (Langer and Moldoveanu, 2000). This type of mindfulness—mindfulness through eliciting free thinking of one's inner processing and associating various aspects of that processing in a novel way—has been also discussed by Saarinen and Lehti (2014). This type of approach could be seen as inducing cognitive mindfulness, which is something that is arguably happening in Rogerian psychotherapy in which the client is processing and drawing greater awareness to their inner processing.

Openness to one's inner processing was described by Rogers (1961) as a process that is first unfamiliar and frightening, feelings that gradually ebb as they learn to trust the process and lean into the discomfort of such vulnerability. Brown (2012) has discussed the concept of vulnerability as the courage to lean into discomfort and show emotional exposure with courage. According to Brown (2012), the capacity to be vulnerable and let oneself be seen is the birthplace of courage, growth, and well-being, which is much in line with the OVP theory (Rogers, 1961).

Autonomy, Responsibility, and Becoming Who You Are

A very important part of the OVP theory is that the person learns to place the locus of control within the self and therefore take responsibility over their actions and feel more self-directed (Rogers, 1959, 1961, 1964). Such a tendency requires self-connection, or learning to listen to and recognize the ways in which one construes the world and the self-image, and whether one has been largely governed by influences and ideas coming from extrinsic sources and conditions of worth. Rogers (1961) described this realization as a sense of becoming the subject, instead of the object, of one's life, referring to the empowering of the personal ability to guide one's life, rather than feeling like a victim of one's circumstances.

Santapukki (2006, 2010) discusses the empowerment of the self—that one can and should take responsibility over their lives, that despite the potential support that one can receive, ultimately only they themselves can govern the decisions and changes that can lead to greater personal well-being—as one of the greatest realizations on the path of personal growth. Understanding this responsibility can also be healthy in that one does not rely on codependence for supporting the self but rather can trust the self as the ultimate source of one's own well-being (Santapukki, 2006, 2010).

Here, the intricate balance between the need for unconditional positive regard from another and the empowering of the autonomous self becomes evident in the OVP theory. According to Rogers (1961), at higher stages of personal growth, when the individual is connecting more with their OVP, the need for unconditional positive regard from another diminishes. The locus of approval turns inwards at this point (i.e., higher unconditional positive self-regard). This is a definitive step toward greater autonomy and embracing of the authentic self.

Wood et al. (2008a) proposed the construct of the authentic personality, based on the Rogers (1959) OVP theory. The dispositional construct of authenticity operationalizes some of the key points of the OVP theory, including the ability to gain autonomy and self-direction instead of behaving according to conditions of worth; understand and listen to one's inner processing; and gear toward authentic, or intrinsic, behavior. The construct includes three subcomponents: *alienation from the self*, which reflects the state of congruence between true experiencing and conscious awareness of it (i.e., the sense that one is connected to and knows the true self); *authentic living*, or the congruence between conscious awareness of one's experience and one's outward behavior of it (i.e., being able to express one's true self in behavior); and *rejecting external influence*, or one's ability to be self-governing and reject external pressures and conditions of worth. Very high authenticity therefore reflects a state of congruence between the awareness of one's real experience and the ability to behave according to that experience in an autonomous way, all the while rejecting external pressure (Wood et al., 2008a). This summarizes some key points of the OVP theory, in which authenticity is a key change taking place in the growth toward becoming fully functioning. Authenticity has been found to be associated with higher well-being, including both subjective and psychological, as well as higher self-esteem (Wood et al., 2008a).

Another conceptually similar way of defining authenticity is given by Goldman and Kernis (2002), who see authenticity as consisting of subcomponents relating to awareness of self (i.e., one's attributes), an unbiased view of the self, honesty in expression, and openness in relationships. Authenticity has also been defined in different ways, with a greater focus on a sense of identity consistency across social roles (Daukantaitė and Soto, 2014; Robinson et al., 2014), with the premise that a huge variability across social roles might indicate that one puts on a facade (Goldman and Kernis, 2002). Furthermore, Lenton et al. (2013) found that participants tended to feel that calm and low-arousal positive situations and situations reflecting a highly idealistic view of the self were the "most-me" authentic experiences. This suggests that seeing the self favorably, with a focus on strengths, may enhance feelings of authenticity. This is also what Peterson and Seligman (2004) describe as occurring

when one identifies their highest character strengths, that is, the strengths feel highly reflective of the authentic self and owned, and motivate behavior. With the varying definitions of authenticity, what seems to be common is the deeply felt sense of being in touch with oneself. Across various studies, such a sense has been shown to be related to higher levels of well-being (Goldman and Kernis, 2002; Lenton et al., 2013; Daukantaitė and Soto, 2014), in line with the OVP. Furthermore, authenticity coupled with positive self-regard might help individuals see the authentic self as reflected through one's highest potential—top character strengths.

In connection with authenticity and autonomy, self-driven goal pursuits have been shown to be strongly well-being enhancing (Sheldon and Kasser, 1995). Sheldon and Elliot (1999) call such goals *self-concordant*, or consisting of intrinsically placed pursuits that enhance the self and reflect a person's life-long interest and core values. This theory is likewise based on the OVP in that the self-concordant pursuit can satisfy one's organismic needs (Sheldon and Kasser, 1995). Participants who were high on self-concordance were also higher on empathy, openness, vitality, and self-actualization (Sheldon and Kasser, 1995).

Ability to Be a Process, Not a Product: Motivation to Grow Along With Life

According to Rogers (1961), one of the most fundamental mental shifts that a person undergoes as they progress along their OVP is the ability to accept that life, as well as oneself, are in a state of constant flux. The individual must therefore adopt a positive attitude toward growth and development that occurs alongside the changing circumstances of life. This stage is in contrast to a state of rigidity, holding onto set constructs and refusing to change and be open (Rogers, 1961).

This notion of a willingness to embrace change and growth has received ample attention within positive psychology research. For instance, Dweck (2006) coined the terms *fixed* and *growth mindset* (also referred to as entity and incremental beliefs, respectively), which distinguish those that rely on safety and old patterns of behavior and beliefs and those that believe that growth and change are both possible and desirable. The fixed mindset is reminiscent of the Rogerian stage of rigidity mentioned above. People with such a mindset tend to hold implicit beliefs that they possess a determined level of skill and have a determined personality, and those aspects are fixed (Dweck, 2006). This belief can have profound effects on motivation, such that the person develops a strong desire to prove themselves or their level of ability, and fear that they fail to live up to that perceived level (Dweck, 2006). Such a person may be sensitive to failure and feel that failure is deterministic of one's worth. The growth mindset, on the other hand, is related to a belief in the malleability of one's traits and to a motivation toward growth through greater effort (Dweck, 2006). Someone with a growth mindset might not be as sensitive to failure, since they do not believe that failures disprove one's worth but rather indicate that one must try harder (Dweck, 2006).

One construct reminiscent of mindset, particularly in terms of goal motivation, is grit (Duckworth et al., 2007). Grit is the perseverant tenacity to passionately strive toward a long-term goal, even over several years and in spite of setbacks (Duckworth et al., 2007; Duckworth, 2016). In other words, grit entails a devoted motivation and strong abilities for self-regulation toward continuing the pursuit of one's goal. Vainio and Daukantaitė (2016) recently discussed grit as being akin to the growth motivation of the OVP and tested whether grit would reflect either rigidity or a positive growth tendency. They found that grit was highly related to different well-being types, including life satisfaction, psychological well-being, and harmony in life (discussed below), through the mediators of sense of coherence and authenticity. This was in line with the OVP framework and suggests that grit might reflect a particular connection with the self since it entails such devoted goal pursuit (Vainio and Daukantaitė, 2016). Maddi et al. (2013) further discussed grit in relation to hardiness, suggesting that grit might lack the aspect of existential courage, that is, the ability to change course if the changes in one's circumstances so demand. However, the fact that grit was related to different aspects of well-being, even harmony, suggests that grit does not undermine well-being or reflect rigidity but serves as a motivation for growth from the perspective of the OVP (Vainio and Daukantaitė, 2016). Grit might in fact be a way in which the actualizing tendency is psychologically manifested. This assertion should be further explored.

The concept of *harmony in life* approaches well-being from a secondary-control perspective. It refers to one's ability to let go of the need to control one's life and surroundings and find harmony in the fluctuations of life and feeling a sense of connection with the greater world (Kjell, 2011; Kjell et al., 2016). Kjell (2011) discusses that traditional well-being measures, such as subjective and psychological well-being, tend to take a primary-control view, putting the individual in full control of their life. Perhaps, like Rogers also suggests, at a higher stage of the organismic growth process, one can establish greater levels of harmony, including a greater interconnectivity and prosociality in the context of the wider world, along with the ability to accept that change and growth are inherent aspects of life.

Another construct illustrating the well-being-enhancing effects of accepting the fluctuations of life is *posttraumatic growth* (Tedeschi and Calhoun, 2004). According to Frans et al. (2005), most people (upwards of 80%) will face some form of traumatic event in their lifetime. Some of these might be highly disturbing and can shatter one's assumptions of the world, forcing one to reckon with a disruption of their belief system. Joseph and Linley (2005) formulated the concept of *growth after adversity* by using the OVP framework, basing their theory on the notion that people are inherently motivated to strive toward greater well-being, which suggests an inborn motivation to move toward coping with or even growing from trauma. They suggest that one takes different paths after trauma. According to one path, they might assimilate the information into their assumptive world by holding onto their previous assumptions and thereby returning to the level of functioning prior to the trauma. In this way, the person shows evidence of resilience or being able to bounce back to previous levels of functioning after an adversity.

However, such a state might lead to greater fragility, since the assimilation process might entail distraction from or avoidance of trauma-related information or even blaming the trauma on the self so as to be able to preserve one's view of the world (see Joseph, 2015). Alternatively, individuals might accommodate trauma-related information within one's assumptive world—in other words, they might let the trauma alter their worldview. This can occur in either a negative way, in which the person might begin to perceive the world as unjust, leading to a sense of helplessness, or more generally lose their belief in the coherence of life. This can result in negative affect and depressive symptoms (Joseph and Linley, 2005; Payne et al., 2007; Joseph, 2015). However, it is important to notice that depressive symptoms are not necessarily a bad sign; in fact, depression after a cancer diagnosis was associated with greater posttraumatic growth at follow-up in breast cancer survivors, suggesting that depression can serve as a catalyst for growth (Romeo et al., 2020). Yet, when one accommodates the information in a positive way, this means that one rebuilds their assumptive world incorporating the trauma information, but being able to find a new meaning or positive angle with this change in one's life. Such changes might entail greater appreciation of life, a greater sense of gratitude, greater connection with one's true values, feelings of authenticity, or a deepened sense of connection with other people (Joseph and Linley, 2005, 2006). Posttraumatic growth is a good example of how the ability to embrace change, uncertainty, and the fluctuations of life may bring about greater levels of well-being and a new level of psychological and social functioning.

While the life-altering and belief-shattering effects of traumatic experiences has been shown to, in many cases, lead to further psychological and social gains for the individual, Roepke (2013) has pointed out that growth can also occur after a positive life event. Roepke (2013) based her theorizing both on the broaden-and-build theory of positive emotions (Fredrickson, 2001) and the *inspire and rewire* theory by Haidt (2003). Both these theories suggest that experiencing positive emotions can build toward further positive states, open up the thought–action repertoire and perception, and inspire growth. The growth-enhancing positive emotions are related to the concept of "self-transcendence," which denotes a sense of meaning such as gratitude, awe, and inspiration (Peterson and Seligman, 2004; Keltner, 2009). All these can create a sense of connecting to something greater than the self and are in fact often also the types of positive changes described in relation to growth following trauma (see Chun and Lee, 2013). Likewise, approaches to personal growth motivation have focused on the well-being-enhancing effects of a willingness to change and develop in meaningful directions. However, as noted above, accepting such changeability requires one to lean into discomfort as well as be able to face challenges and negative emotions (e.g., anxiety and worry).

Another important concept related to personal growth is eudaimonic growth, which was proposed by Bauer and McAdams (2010). They recognized that people tend to report either safety goals or growth goals as major life goals. Safety goals relate to the protection of the self and staying in one's safety zone, and are closely related to the rigidity described in the OVP theory. By contrast, growth goals tend to include themes of greater intellectual exploration, understanding, new perspectives, deeper interpersonal connections, or greater enjoyment of life (Bauer and McAdams, 2010). Similarly, growth-related life narratives from older adults appear to be related to meaning-based self-identities and well-being, suggesting that seeing growth and development in one's life might have positive effects and deliver a sense of meaning (Bauer and Park, 2010).

Prosocial Dimension: Compassion for the Self and Others

Rogers (1961, 1964, 1980) believed that a person in touch with their OVP—who is growing toward greater functioning and well-being—will be more willing to be prosocial and wish for the well-being of others. In this sense, Rogers (1961, 1964) emphasized that the quest for one's own well-being is ultimately prosocial. His view on the depth of this direction is effectively captured in the following passages:

"I find it significant that when individuals are prized as persons, the values they select do not run the full gamut of possibilities. I do not find, in such a climate of freedom, that one person comes to value fraud and murder and thievery, while another values a life of self-sacrifice, and another values only money. Instead there seems to be a deep and underlying thread of commonality. I believe that when the human being is inwardly free to choose whatever he deeply values, he tends to value those objects, experiences, and goals which make for his own survival, growth, and development, and for the survival and development of others. I hypothesize that it is *characteristic* of the human organism to prefer such actualizing and socialized goals when he is exposed to a growth promoting climate." (Rogers, 1964, p. 166).

"The psychologically mature person as I have described him has, I believe, the qualities which would cause him to value those experiences which would make for the survival and enhancement of the human race." (Rogers, 1964, p. 167).

In other words, Rogers (1964) believed that the ultimate stage of development within the OVP comes after the person realizes one's responsibility toward oneself, and has gained a sense of the interconnectedness of the world and place within it. In some ways, it seems that the unconditional positive regard and acceptance of Rogerian theory are first given to the individual from another to enhance the favorable conditions of growth, after which this regard is given to the self and, ultimately, toward others and the world. This process resonates very closely with the concept of loving–kindness meditation, wherein one learns to cultivate compassion and kindness first toward the self, then toward close others. These feelings are soon extended to increasingly distant others, finally reaching the world at large (Hoffmann et al., 2011).

Hoffmann et al. (2011) discussed loving–kindness meditation and its effects on promoting compassion. Fredrickson et al. (2008) discussed loving–kindness meditation in relation to the broaden-and-build theory of positive emotions, which suggests that positive emotionality builds on itself and creates

growth in positivity, such that one's inner well-being radiates outside and helps build better social bonds (Fredrickson, 2001). Loving–kindness meditation can enhance a variety of positive emotions along with the various aspects of eudemonic well-being such as environmental mastery, positive relations, mindfulness, and reductions in depressive symptoms (Fredrickson et al., 2008). In addition, loving–kindness can enhance feelings of altruism (Wallmark et al., 2012), suggesting that this exercise might enable a broader focus for compassion and foster feelings of connection to the wider world (Fredrickson et al., 2008). Cultivating compassion, therefore, has multiple benefits, and its role in mental health and resilience seems robust (MacBeth and Gumley, 2012). In these ways, the broaden-and-build theory and the cultivation of compassion support the Rogerian OVP theory.

Resonating quite closely with Rogers (1961, 1964) concepts, Van Hiel et al. (2010) study found that extrinsic pursuits for financial success and materialism were related to higher levels of prejudice. When one does not strive for goals that enhance one's own OVP, there is a greater tendency to categorize and be less open to others. By contrast, the intrinsic pursuit of community concern was inversely related to prejudice and positively related to prosocial tendencies and concern over other's well-being (Van Hiel et al., 2010). Extrinsic pursuits are also related to lower self-connection or self-alienation, which is considered to reflect the less-than-optimal developmental trajectories and is associated with a loss of connection to one's growth motivation (see Sheldon and McGregor, 2000; Kasser et al., 1995), greater materialistic ideation (Froh et al., 2011), and greater psychological distress (Kasser, 2002). Intrinsic pursuits, on the other hand, are related to a greater striving toward well-being and a more open attitude toward others and the well-being of the world at large. These are together in line with the Rogers (1961, 1964) notion that engaging in one's own growth process helps make one more willing to endorse the growth of others.

A rather similar construct to the prosocial tendencies resulting from the growth process is gratitude as a general orientation to life, as defined by Wood and colleagues (Wood et al., 2008b, 2010). Having a grateful orientation is associated with a generally greater appreciation of one's life and other people, as well as greater experiences of awe when experiencing something beautiful, a greater sense of the "fragility of life," and greater tendency to behave in ways that express gratitude. Such an orientation is associated with a greater sense of interconnectivity between the self and the surrounding world (Wood et al., 2010) and a higher willingness to give back to society (see Froh et al., 2011). Furthermore, gratitude is often reported as a benefit that occurs with growth following trauma (Chun and Lee, 2013).

The Fully Functioning Person

The positive psychological construct of optimal well-being—that is, the concept of *flourishing*—resonates with the Rogers (1959, 1961) fully functioning person. For Seligman (2012), flourishing is the possession of both high hedonic (positive emotion) and high eudaimonic (well-being capacities) functioning. According to his theory of well-being, the constructs of positive emotion, engagement, relationships, meaning, and accomplishment (PERMA) are regarded as goals that individuals strive toward for intrinsic reasons (Seligman, 2012). All of these concepts have correlates in Rogers (1961). Positive emotions are a by-product of the well-being growth process, while engagement is considered a reflection of a connection with the self accompanied by intrinsically motivated directions and autonomy. Relationships are emphasized in both enabling a psychologically safe atmosphere for the growth to others, as well as having greater sense of interconnectedness and compassion. Meaning is enhanced by a self-driven and authentic attitude toward one's endeavors as well as a sense of interconnectedness to humanity and the world.

Keyes (2002) theory of flourishing defines the person with optimal levels of mental health as having high subjective well-being (life satisfaction and positive emotion; Diener, 1994), high psychological well-being (autonomy, environmental mastery, personal growth, purpose, positive relationships, and self-acceptance; Ryff, 1989), and high social well-being (social contribution, coherence, integration, actualization, and acceptance; Keyes, 1998). Keyes (1998) social well-being includes the sense that the social world is sensible and coherent and, through a sense of belonging, can help one grow and actualize. While the Rogerian theory does not as specifically define the various dimensions of social well-being, it does expound on the role of the social environment in satisfying the basic psychological needs of feeling accepted and supported in one's growth. Likewise, it clarifies the process by which individuals grow in their subjective, psychological, and social well-being. In sum, the Rogerian OVP theory seems to illustrate the process of becoming a flourishing individual.

PART 3: SOME IMPLICATIONS FROM THE ROGERIAN ORGANISMIC VALUING THEORY FOR POSITIVE PSYCHOLOGY AND INTERVENTION

Understanding personal growth as a process that unfolds in individuals through certain crucial mental shifts could help immensely in both better understanding well-being theoretically, as well as how to promote well-being in applied settings, such as in therapy and schools. This integration can have implications for both theory and practice.

Theoretical Implications

Adopting a theory of growth grounded in the OVP theory would have several important theoretical implications. First, the OVP is a theory of the process of personal growth and well-being, which would be a fruitful basis for further empirical explorations of this process. Personal growth has not yet been discussed comprehensively within positive psychology nor studied empirically, since it is a complex unfolding process requiring a holistic dynamic paradigm where the individual is regarded as a complex system that functions

and develops as a totality through the convergence of subsystems at different levels (Magnusson, 1985, 1998). This person-oriented approach, which stems from the interactionist research paradigm, focuses on studying and interpreting information about each subsystem in relation to the whole (Bergman and Magnusson, 1997), even though a degree of decontextualization and simplification of the systems under scrutiny are unavoidable (Nilsson, 2015). Thus, studying individuals in terms of profiles of individual characteristics relevant for the growth and well-being over time by using person-oriented methods would provide an in-depth understanding of the whole person.

Second, the OVP considers well-being as an unfolding process characterized by constant change and reinvention—while there are tentative personal growth stages, it fundamentally suggests that the well-being process is ongoing and open. Accordingly, a growing individual is simultaneously growing in terms of inner strength and in a constant state of vulnerability to the ebbs and flows of life, which can readily change their course. Engaging with the authentic growth process can help the individual openly and acceptingly face and overcome these dips in the growth process. Personal growth, in this way, can be thought of as a process of befriending the self and thereby gaining confidence to face life's ups and downs.

Third, a theory of personal growth based on the OVP would be embedded in a view of the person as being an active agent motivated to grow, become more complex, more closely connect with and express their authentic self, and better fulfill their own potential. In other words, the theory sees the person as proactive. This proactivity is the default of the individual unless this growth process is stifled by the environment. This idea is somewhat radical in that the underlying assumption is that the person has an internal drive for well-being and growth that is inherently proactive and *prosocial*.

Fourth, the theory would suggest that the psychosocial environment is exceedingly important for nurturing (or stifling) the growth of this agentic person. More specifically, the natural organic growth process is either nourished by an environment that offers the fulfillment of their basic psychological needs or stifled by a lack of these needs (Rogers, 1961, 1980). Furthermore, each relationship can be defined as growth enhancing or stifling, which would call for a common social responsibility. While an individual has an inner drive for growth, complexity, and autonomy, and is capable of attaining this, the value system of the social environment can still alienate the individual from their growth process. Therefore, the social environment must be regarded as fundamental to adopting a growth mindset, well-being, and compassion. In sum, the organismic valuing theory could be seen as a metatheory for positive psychology, in that it is a holistic theory of well-being as a process that can incorporate a vast amount of positive psychological constructs and theories within it.

Practical Implications

Rogerian growth theory can also inform therapeutic and educational interventions aimed at promoting the personal growth process. First, in order to enhance the growth process, the basic psychological conditions of unconditional care, authenticity, and acceptance must be present in order to override any defensive responses. The use of positive psychology in clinical psychology settings could elicit the growth process by helping individuals deal with trauma and promoting their positive potentialities, since either one alone would contribute an incomplete picture of the individual's situation and growth potential (see Wood and Tarrier, 2010). In an atmosphere of genuineness and acceptance, individuals can more vulnerably engage with the process of growth (see Rogers, 1961, 1959). As discussed by Wilmots and colleagues (2020), a positive therapeutic relationship is essential for the alleviation of problems such as depression. In a school context, the satisfaction of basic psychological needs, which would ensure a psychologically safe school atmosphere through an autonomy-supportive teaching style (see Núnez and León, 2015), is related to student motivation and well-being (Núnez and León, 2015; Liu et al., 2017) and might provide a growth-promoting atmosphere in the classroom.

Positive psychology therapeutic interventions can be useful for the elicitation of the growth process. The actualizing tendency is something that the individual needs to gain a connection to themselves (i.e., to be able to attune to their inner communications). Mindfulness, both in the form of mindfulness meditation and cognitive mindfulness through open conversation (see Langer, 1989; Langer and Moldoveanu, 2000), can be an effective way of doing this. Through mindfulness, one can learn to connect to the bottom–up processing of the body and mind and focus on the present moment (Adair and Fredrickson, 2015). In cognitive mindfulness, one may learn to better understand one's cognitive processes and gain insight into the ways in which one represents reality and the self (see Langer and Moldoveanu, 2000; Saarinen and Lehti, 2014). Furthermore, since mindfulness may help one in attaining balance between explicit and implicit self-esteem (Koole et al., 2009), it may help in, for instance, mitigating narcissistic tendencies or gaining better self-acceptance.

Another way to engage with the actualizing tendency might be through exercises encouraging self-reflection on one's values. Such exercises might help one to gain a greater connection with the self and a better understanding of one's sources of intrinsic motivation. Promoting a self-connection may in turn help individuals understand themselves and set more self-concordant goals (see Sheldon and Elliot, 1999), which in turn will elicit intrinsic motivation and promote the gritty pursuit of such goals (as grit is related to authenticity: see Vainio and Daukantaitė, 2016), thereby enhancing the growth process.

Interventions that promote meaning-making of difficult experiences such as trauma or illness can enhance clients' sense of meaningfulness and well-being (i.e., self-efficacy, optimism, and self-esteem as in Lee et al., 2006). For instance, in the logotherapeutic tradition, it is recognized that clients must make sense of their experiences and recognize the greater meaning behind their suffering, which can elicit further growth and a sense of transcending of the suffering (Frankl, 1969).

Higher unconditional self-regard could be promoted through the strengths approach provided by positive psychology. Positive psychological interventions focus on promoting well-being through attention to individuals' strengths rather than their

weaknesses, such as learning to recognizing one's strengths and considering how to use them more in everyday life (e.g., Park and Peterson, 2009; Seligman et al., 2009). Basing goal pursuits on strengths may enhance motivation and feelings of authenticity more than basing goals on improving weakness (Seligman et al., 2009; Seligman, 2012). Higher levels of both unconditional positive self-regard and compassion can be rehearsed by self-compassion exercises (see Neff, 2011) or loving–kindness meditation (Fredrickson et al., 2008).

Furthermore, understanding personal growth as a process has benefits for education, particularly positive education, which aims to integrate scientific understanding of well-being in school curricula to help children gain greater capacities for well-being (see Seligman et al., 2005; Seligman et al., 2009; Norrish et al., 2013; Norrish, 2015). The OVP theory could help in identifying those core conditions that might help young people gain greater well-being capacities. Furthermore, it would allow students to be viewed more as active agents willing to pursue their greatest potential when the circumstances for this—including the satisfaction of their basic psychological needs—are suitable. Seeing children in this light might help to contextualize problem behavior or a lack of interest and attention, thereby identifying them as symptoms of the students' basic psychological needs going unfulfilled.

It is important to note that Rogers (1959, 1961) believed that conditions of worth—conditions placed from the outside on individuals' worthiness as a person—are the source of psychopathological symptoms. Therefore, in order to follow the Rogerian therapeutic tradition and enhance the OVP, such conditions need to be avoided in all interventions—that would mean being very careful about "prescribing" positive psychology to clients without consideration of their sensitivities and personalities. The positive should never become a condition of worth for the individuals during a treatment or intervention. Even using character strengths interventions should be done with utmost sensitivity to avoid imposing strengths on individuals that may feel inauthentic or a condition of worth. Instead, interventions should be centered on authenticity, autonomy, and description over prescription (see also Linley et al., 2006). Moreover, positive psychology interventions should not become evaluations of student performance—since such evaluations would become evaluations of personality rather than evaluations of performance, which should never be the case in education (see Keltikangas-Järvinen, 2016, for the importance of evaluating performance and never personality or temperament).

In general, it is advisable for therapeutic and educational relationships to focus on promoting the personal growth process, basing the efforts on building eudaimonic well-being capacities over time in order to help the individual engage with their organismic valuing process in a psychologically safe social environment, avoiding conditions of worth. Such efforts could prove beneficial for the long-term growth of individuals.

Limitations of the Present Review

Due to space limitations, this present review lacks a more comprehensive look at the controversy between positive and humanistic psychology, which is discussed elsewhere (see Friedman, 2008; Waterman, 2013). Furthermore, a more thorough exploration of the differences and similarities between the OVP theory and other humanistic-existential theories was beyond the scope of this review. Such explorations would help to highlight more fruitful areas of empirical investigation. The common criticisms toward Rogerian theory were likewise not discussed in this review, although they can be found elsewhere, such as in Friedman (2008). Generally, Rogers has been criticized for his highly individualistic theories and naively positive view of the person (Friedman, 2008). However, such individualism is arguably present throughout every field of psychology, including positive psychology (see Christopher, 1999); as such, it is not solely a problem of humanistic theories. Even so, addressing this criticism is necessary for ensuring wider applicability of Rogerian theory. We believe that the Rogerian fully functioning person is a more collectivist state in which the individual is particularly concerned for the welfare of other beings and in harmony with the world.

CONCLUSION

The Rogerian OVP theory provides a holistic view of the personal growth process across life and can be used to integrate the often disparate pieces of knowledge within well-being research under a coherent metatheory. The call for integration is based on a call for greater cowork between the subfields of positive and humanistic psychology, utilizing the strengths inherent in each subfield. Both can serve our understanding of growth: indeed, we suggest that the best way of understanding growth is through a process of differentiation (i.e., getting more detailed knowledge of the various relevant psychological variables involved in the process), organization (i.e., organizing the various separate variables into theories), and integration (i.e., integrating the variables and subtheories to an overarching metatheory that can better explain the interconnection of the various elements). Along these lines, positive psychology acts as both the differentiation and organization stages, but some humanistic theories, particularly the organismic valuing theory, could serve as an integrative metatheory, providing a holistic view. Beyond this more individual level of inquiry, a call for the integration of different fields of science could add to our understanding growth in various contexts.

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MM has contributed the main body of text and the main ideas. DD has contributed to the construction of the text and refinement of ideas and provided extensive feedback and commentary. Both authors contributed to the article and approved the submitted version.

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Article II

What is the Process of Personal Growth? Introducing the Personal Growth Process Model

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Abstract

Personal growth as a process remains vaguely understood. We introduce the Personal Growth Process (PGP) model based on Carl Rogers's organismic valuing process (OVP). The PGP model explains personal growth as a sociocognitive embodied process whereby an individual undergoes multiple mental shifts that make up an ongoing, fluctuating process over the long term, starting from a place of psychological safety. The mental shifts occurring throughout the growth process are broadly categorized as self-awareness, openness towards experiencing and change, existential courage, autonomy/internal locus of control, taking responsibility for the self and others, self-compassion, and compassion towards others. These shifts all represent progress toward well-being, defined here as authenticity, harmony, and life-satisfaction. Importantly, the model does not include only individual psychological constructs, but ties the process to one's social environment and common social responsibility.

Keywords: Personal growth, Process, Organismic valuing process, Rogers, humanistic psychology, positive psychology, integration, authenticity

What is the Process of Personal Growth? Introducing the Personal Growth Process Model

Personal Growth is a relatively common topic in both research literature and everyday conversation. Surprisingly, however, there is a dearth of theory on it as a process. In the positive psychological literature, personal growth tends to be approached through proximal phenomena such as growth-related goals (Bauer & McAdams, 2010), narration of the life-story from a growth perspective (Bauer & Park, 2010; Bauer et al., 2005), the growth mindset (Dweck, 2006; Yeager et al., 2019), striving towards meaningful goals with grit (Duckworth et al., 2007; Vainio & Daukantaitė, 2016), the motivation to grow (Robitschek et al., 2012), or satisfaction of basic psychological needs (Vasteenkiste & Ryan, 2013; Baard et al., 2004). Moreover, personal growth is one of the six subcomponents of the psychological well-being construct of Ryff (1989; Ryff & Singer, 2008), wherein it is defined as the continuation of developing one's potential, "growing as a person," and confronting new challenges in life (Ryff, 1989). These studies have been fundamental to deepening our understanding of this complex phenomenon and its related factors; they do not, however, explain it is an ongoing psychological process with distinct supportive conditions and subprocesses.

What is the personal growth process? What are its subprocesses? Under what conditions does it occur? These are the leading questions guiding this theoretical article. Given the complexity of the process, we argue that a holistic, person-centered perspective is necessary to explain the process of personal growth. For that reason, we refer to work done in the humanistic psychological tradition, in particular building on the work of Carl Rogers and his organismic valuing process (Maurer & Daukantaitė, 2020; Rogers, 1959, 1961, 1963, 1964, 1980).

The Organismic Valuing Process and therapeutic change

Carl Rogers (1959, 1961), known as one of the pioneers of humanistic psychology and person-centered psychotherapy, recorded extensive observations of the growth processes his clients underwent during their psychotherapy sessions. Based on these observations, Rogers (1959, 1961) described an overarching personal growth process, which he called the "organismic valuing process". The organismic valuing process is an embodied process whereby an individual organism, within a psychologically favorable growth-enhancing environment, can naturally orient towards environmental and internal "values" (i.e. sources of psychological and bodily nourishment) that enable that organism to achieve higher psychological and social functioning. He likens the idea to a plant turning towards the sun in order to grow: an individual, free of conditions of worth (i.e. conditions for being accepted) and in a psychologically favorable environment, can orient themselves toward sources of growth. On the other hand, the individual can also lose touch with their

organismic valuing process due to various internal and environmental demands and conditions of worth. The overall process of personal growth, therefore, is the process of regaining a connection to the self and releasing the actualizing tendency (Rogers, 1964).

Rogers – a psychotherapist – detailed how the organismic valuing process fit within the process of therapeutic change, organizing it into seven sequential stages (see Rogers, 1961; Wilkins, 2016): 1) the person is defensive and resistant to change; 2) the person becomes somewhat less rigid and talks about external events; 3) the person talks about the self as an object (with distance); 4) the person starts to talk about their feelings and form a relationship with the therapist; 5) the person further expresses emotion and begins to take more personal responsibility; 6) the person starts to grow towards a sense of "congruence" and accept others more; and 7) the person becomes a fully-functioning, empathetic person, possessed of an unconditional positive regard for the self and others (Wilkins, 2016).

Much has been made of Roger's organismic valuing and therapeutic change processes in the field of psychotherapy (e.g. Joseph & Murphy, 2012; Wilkins, 2016), but only relatively recently have they been considered in non-therapeutic contexts. Maurer and Daukantaitė (2020) linked the organismic valuing process to recent research within positive psychology, showing the close connection of the constructs and processes of positive and humanistic psychology. Moreover, Maurer and Daukantaitė (2020) explicated the Rogerian personal growth process as defined mental shifts linked to well-researched positive psychological phenomena. In integrating the Rogerian perspectives with recent positive psychological literature, Maurer and Daukantaité (2020) refer to the Rogerian therapeutic growth process as a *theory* or *model of personal growth* that can be applied outside of therapeutic context. The primary rationale of the paper by Maurer and Daukantaité (2020) was to identify the connections between the OVP (a humanistic theory) and positive psychology; the current paper narrows the focus to elaborate on how the OVP can be operationalized into a testable model of the personal growth process. More specifically, this paper expands on the construct of personal growth as a process by introducing the Personal Growth Process (PGP) model. We further aim to highlight the personal growth process as fundamentally social – and prosocial – in an attempt to move away from the traditional view of personal growth as individualistic and self-centered: the "self-made man" (e.g. De Keere, 2014).

Thus, the aim of this article is to propose a model of the personal growth process based on Rogers' (1961, 1964) theories, particularly geared towards the humanistic and positive psychology audiences, including researchers and practitioners. This paper should be seen as a first step in clarifying personal growth as a process. Comparison of the model to other models of growth is beyond the scope of this article, but it would be important to do in the future.

Why do we need a model of personal growth?

The PGP model aims to help researchers explore in a holistic manner the hard-to-operationalize, fluctuating process by which people experience growth. So far, research on personal growth remains at the initial stage of differentiation in Magnusson and Törestad's (1993) model of theoretical development. Maurer and Daukantaité (2020) observed that positive psychology has created a solid research base of differentiated knowledge with a multitude of constructs relevant for growth, such as mindful awareness, growth mindset, self-compassion, autonomy, harmony (and others). However, no model has yet integrated these constructs, explaining how their co-occurrence, interaction and supportive conditions lead to the phenomenon by which an individual "personally grows". In this way, the PGP model aims to move well-being research into the integration stage of theory development (Magnusson & Törestad, 1993) – one has to look at the whole body in order understand the purpose and function of individual body parts. In other words, a model of personal growth as a process offers a way of explaining the interrelations of concepts known to be relevant to well-being.

We argue that the process of personal growth can be best conceptualized as a nonlinear process of enhancement of various "well-being capacities" such as self-awareness, autonomy, existential courage and self-compassion. These are "well-being capacities" insofar as they act as inner resources that support an individual's overall well-being and mental health (e.g. Ryan & Deci, 2018; Neff, 2003, 2011; Maddi, 2004, 2006). Well-being is understood here as a multidimensional concept, entailing both eudaimonic and hedonic aspects, including authenticity (the integration of self), harmony (Kjell et al., 2015), and life satisfaction (Diener, 2009).

A model that defines personal growth as the enhancement of well-being capacities has clear implications for well-being interventions in various contexts. Given that the aim of such interventions is to improve well-being, they would benefit from a better understanding of how well-being develops and is enhanced. This model can help guide the efforts of intervention, such as understanding therapeutic change and the enhancement of well-being through, say, positive educational interventions (see Norrish, 2015).

The Personal Growth Process (PGP) Model

The suggested PGP model is based on Rogers' work (1959, 1961, 1963, 1964, 1980), but departs from it in several key ways. The most notable departures are that it does not apply only to a therapeutic context and its delineation of the personal growth mental shifts or subprocesses (as they are called here). We have also linked these shifts to various positive psychological constructs to indicate a basis in empirical evidence. The PGP model is depicted in Figure 1. Personal growth begins

with a basic need, psychological safety, alongside a requirement for growth, i.e. the willingness to engage with growth prior to the process. The subprocesses of growth are a step outwards from these central preconditions, with the outermost circle depicting the outcomes (i.e. well-being).

According to the PGP model, personal growth is not a proximal experience, but a process of holistic change – it is an often chaotic, highly individualized, fluctuating process that may take years to unfold, with the individual moving constantly back and forth between distinct mental shifts, or subprocesses. We define personal growth as a holistic, dynamic process of gradual, well-being enhancing psychosocial change. This definition derives from Rogers' (1961) work on the organismic valuing process, as well as Maurer and Daukantaitė's (2020) work of reinterpreting the organismic valuing process as a theory of personal growth. Personal growth is 1) holistic, in that it is fundamentally embedded within the entire system into which the individual fits – including the physiological, biological, cognitive, emotional, social, and cultural realms – and it affects each level of inquiry (see Rogers, 1959, 1961, 1964; Maurer & Daukantaitė, 2020); 2) dynamic, in that the process is not sequential or linear, but chaotic and iterative (Rogers, 1961; Maurer & Daukantaitė, 2020); 3) gradual, in that it is often arduous and occurs over a long period (Rogers, 1961); and 4) well-being enhancing, in that it a process of increasing one's capacities and skills for well-being (Rogers, 1961; Maurer & Daukantaitė, 2020; Ryan & Deci, 2018).

What is the difference between development (maturation) and personal growth?

Personal growth is a distinct process from development. The study of development focuses on changes in physical, cognitive and social-emotional factors across the lifespan (Berk, 2004), whereas personal growth is specifically refers to increasing resources for well-being. In other words, personal growth is specifically related to well-being and functioning well, rather than gaining particular cognitive, emotional and physiological skills associated with maturation. To some extent, maturation and personal growth are related and certain maturational processes can better facilitate the subprocesses of personal growth (e.g. an adolescent interested in their identity and growth are more likely to engage with personal growth than a much younger child). Even so, while developmental stages are relatively well defined in relation to specific age-ranges (Berk, 2004; Piaget, 1971; Loevinger, 1966; Kegan, 1982, 1994), we suggest that, personal growth is not age dependent – a younger individual can be further along in the personal growth process than an older individual. Furthermore, we suggest that while physiological processes often regulate maturation and developmental stages, there is no single trigger that motivates the personal growth process.

Nevertheless, there are commonalities between developmental stage theories and the PGP model, particularly those of Kegan (1982, 1994) and Loevinger (1966). For example, Kegan's (1982, 1994) Constructive Developmental theory (CDT) indicates that the individual can grow from a socialized mind, where the self and one's understanding of the world are governed by the influences of others and societal norms (usually around adolescence), towards a self-authoring mind, whereby the individual's sense of self is more or less independent, they are free of the opinions or influences of others, and they take some personal responsibility for themselves. They may grow yet further towards the self-transforming mind, whereby the person begins to regard their self-authored identity more objectively and they embrace a continually evolving, complex sense of self that allows for multiple identities and roles simultaneously (Helsing & Howell, 2014). The PGP model follows a similar trajectory – the individual may begin to develop self-awareness, which helps them distinguish the norms and values they actually ascribe from those placed on them by others. From there, they gradually break away from being unconsciously influenced by outside demands and pressures, growing more autonomous. At the same time, the individual becomes more able to perceive themselves and act authentically, which does not mean that they act in line with a single "true self" but rather means that they act in line with any of the multiple simultaneous roles and identities they may hold without a sense of inner conflict (Rogers, 1961; Harter, 2012).

The PGP model also aligns with Loevinger's (1966) stages of ego development. Loevinger (1966) indicated that at the final stages of ego development, the person is both autonomous and integrated, meaning that they can self-govern as well as resolve seeming contradictions of the self with a sense of integration, empathy and wisdom. These qualities parallel the autonomy, authenticity and harmony that ensues from the growth process according to the PGP model.

Despite these linkages, the PGP model has one major departure from developmental stage theories in that the 'goal' of growth is capacity for well-being. Additionally, the PGP model posits that growth is a dynamic process as opposed to a series of stages. Nevertheless, although it is beyond the scope of the current article, in the future it would be important to explore the commonalities and discrepancies in these theories in more depth.

Motivation to grow from rigidity and fixedness

Fundamentally, personal growth is driven by an unconscious or conscious *willingness* or motivation to engage in the growth process. Individual motivations for engaging with growth may differ. Growth may be driven by recovery from traumatic experience, as is discussed well in the literature surrounding post-traumatic growth (e.g. Tedeschi et al., 2018); changes in one's life circumstances (a turning point experience in life: Wethington, 2003); actively seeking therapeutic help or counselling to solve psychological problems (Rogers, 1961, 1964); a

positive influential event such as exposure to an influential person or idol (see Roepke, 2013); or a "wish for congruence" (Rogers, 1951; Glassman & Hadad, 2013), which Rogers (1951) described a desire for one's self-image to be more in line with their actual experience of the self. Once a person is willing to engage with their own personal growth and lets that process unfold, an "actualizing tendency" is activated, which Rogers (1961) describes as a natural drive towards growth.

However, personal growth is not a given (Rogers, 1961). While it may be a natural process, it is not a *necessary* one, and may be fought against for any number of reasons. Personal growth may be avoided or rejected because the individual does not have the motivation to engage with growth. Before the process begins, an individual may be estranged from their experience and unwilling to look inwards. The individual can remain in this pre-growth stage of fixedness and rigidity (Rogers, 1961), wherein they may not take personal responsibility for their actions or how their life has unfolded and they may not engage with their mind or attempt to understand themselves. This results in a sense of distance from the self, particularly one's psychological and social being. One may not question their situation or look inward, living very much on autopilot (Rogers, 1961).

We also suggest that social determinants, just as they exert a powerful effect on overall health (WHO, 2008), may influence one's capacity and willingness to engage with their personal growth process (e.g. Kaufman, 2020). To some degree, engagement with the personal growth process carries with it the privilege of having one's basic needs for survival more or less met (i.e. safety, nutrition, housing). This is indeed suggested in the new hierarchy of needs by Kaufman (2020; based on Maslow, 1962) and makes it imperative that these basic needs are met to ensure every individual has the opportunity to engage with growth. This is not to say that personal growth is impossible for people who are struggling to meet their basic needs – indeed, there is evidence that certain individuals can and do engage with growth even in dire circumstances, as suggested in the literature surrounding post-traumatic growth (see Frankl, 1992; Tedeschi & Calhoun, 2004; Tedeschi et al., 2018; Joseph & Linley, 2005).

Psychologically safe environment as basic condition for personal growth

While personal growth is located within the individual, it is not an inherently individual process – it is fundamentally embedded in and influenced by other people. For that reason, for growth to occur – in an individual who is willing to engage in the growth process – the individual must have a supportive, psychologically safe environment. Rogers (1959, 1961) suggests that the social environment is an essential condition of the personal growth process, acting as either enabler or hindrance. According to Rogers (1961), the basic qualities of a growth-

promoting environment are a sense of genuineness, empathy and unconditional positive regard.

Genuineness refers to an atmosphere marked by authentic expressions of emotions and the self, such that the individual feels that there is no need for a façade. Moreover, there is a congruence in communication, something Rogers (1980, p. 15) described as "when my experiencing of this moment is present in my awareness and when what is present in my awareness is present in my communication, then each of these three levels matches or is congruent. At such moments I am integrated or whole, I am completely in one piece." All sides in the communicative event (both the self and the partner, be it therapist, teacher, facilitator, a friend, family member, etc.) are able to express their own emotions honestly and openly, showing vulnerability. This mutual opportunity to express vulnerability is a key component for the growth process to take root – the individual(s) feels that they are capable of processing self-related personal topics without needing to put on any defenses (Rogers, 1961).

Empathy, according to Rogers (1961), refers to a sense that the atmosphere is marked by a deep understanding and caring for the individual – there is a willingness to understand and adopt that individual's perspective, such that the individual feels truly seen and heard (Rogers, 1961). Rogers (1980) writes of the importance of truly hearing the other individual:

> "When I truly hear a person and the meanings that are important to him at that moment, hearing not simply his words, but him, and when I let him know that I have heard his own private personal meanings, many things happen. There is first of all a grateful look. He feels released. He wants to tell me more about his world. He surges forth in a new sense of freedom. He becomes more open to the process of change." (Rogers, 1980, p. 10).

Finally, unconditional positive regard refers to a feeling that one's worth is not in question and that one is being met with true acceptance without strings attached. There are, in other words, no conditions of worth (i.e. conditions placed on the self to be accepted) and one's intrinsic worthiness is respected (Rogers, 1961). Rogers (1980) beautifully illustrates the unconditional positive regard towards others:

> "People are just as wonderful as sunsets if I can let them *be*. In fact, perhaps the reason we can truly appreciate a sunset is that we cannot control it. When I look at a sunset as I did the other evening, I don't find myself saying, 'Soften the orange a little on the right hand corner, and put a bit more purple along the base, and use a little more pink in the cloud color'. I don't do that. I don't *try* to control a sunset. I watch with awe as it unfolds." (Rogers, 1980, p. 22).

All three conditions of the growth-promoting climate (congruence, empathy and unconditional positive regard) were more recently described by Maurer and

Daukantaitė (2020) as the integrated construct psychological safety. Psychological safety is referred to in organizational psychology as a belief among workers that it is safe to take interpersonal risks at the workplace (Edmondson et al., 2007; Newman et al., 2017), making it an important vehicle for successful organizational innovation and change (Newman et al., 2017). In this article, psychological safety refers to the sense that one can safely be oneself with trusted others without feeling the need to defend oneself against threats such as dismissal, mockery, rejection, diminishing of one's words, bullying, or any other negative response. By removing these threats – as well as including conditions of growth such as a sense of empathy, genuineness and unconditional positive regard – a growth-promoting atmosphere arises.

The basic conditions for growth in the PGP model are fulfilled by various aspects of the social context as opposed to only the client–therapist relationship. Psychological safety can arise from both one-on-one relationships and groups as well as other contexts such as family, friend groups, organization or school or even an individual's cultural belonging (including e.g. role models or idols). Furthermore, it is important to point out that while psychological safety from the social environment is an important precondition for growth, it serves also as a continuous source of support throughout the growth process.

Psychological safety may also become internalized over the growth process, as suggested by Rogers (1961) and discussed by Maurer and Daukantaité (2020). Once an individual has an established source of safety within their social environment, thus allowing them to build other internal resources (particularly self-compassion, which we discuss further below) as part of the growth process, this sense of safety may become instilled within the individual. Such individuals would be more able to face life's fluctuations, such as hardships, and grow because of this strong inner sense of safety, even in cases where their environment lacks a source of psychological safety (see Rogers, 1961; Maurer & Daukantaité, 2020; see also literature on post-traumatic growth: Tedeschi & Calhoun, 2004; Tedeschi et al., 2018; Joseph & Linley, 2005).

Authenticity, Harmony and Life Satisfaction as the 'Goals' of Growth

Well-being is what the personal growth process leads towards, but it is not merely the end point. It is also intertwined with the process as a whole – enhancements to each of the individual subprocesses may lead to increases in well-being in terms of both the eudaimonic and hedonic aspects. In other words, well-being envelopes the growth process.

Well-being is conceptualized in the PGP model as authenticity (i.e. congruence or integration of self), harmony and life satisfaction. These aspects were chosen because of their similarities to Rogers' (1961, 1964) observations of the growth process. He suggested that growth leads towards congruence (defined since as authenticity; Wood et al., 2008) and harmony with the world. Life satisfaction is our

own addition, intended to provide a holistic view of well-being by adding a hedonic element to the eudaimonic and secondary-control forms of well-being observed by Rogers (i.e. authenticity and harmony, respectively; see Kjell, 2011).

Authenticity is defined as the coherence one finds between their intra- and interpersonal selves. In other words, the self as internally experienced (one's emotions, thoughts, experiences, concept of self) coheres with how one's outer self is interacting and behaving in a social context. Authenticity is at overall an integration of the personality and social roles. An authentic person does not need to take up roles or put up a facade, but can be open in different circumstances (displaying identity consistency, which relates to well-being: see Daukantaitė & Soto-Thompson, 2014); they do not experience overbearing conflicts between awareness, experience and behavior. Growth occurs as individuals approach authenticity, also called the integration of self (also called congruence by Rogers, 1961) between their experience, awareness and behaviors (Rogers, 1961). Integrating one's experiences by listening to the mind and actively holding these experiences in awareness allows for overt behaviors aligned with one's value representations. Rogers (1951) also suggested that authenticity happens when one's sense of self is in line with one's experience of self (i.e. how one actually behaves in situations aligns with one's self-concept; Rogers, 1951), which is important for well-being (Rogers, 1951, 1961). Importantly, authenticity is a continually fluctuating process (see Rogers, 1961).

Wood et al. (2008) and Joseph (2016) defined authenticity based on the Rogerian (1961) concept of congruence. Wood et al. (2008) define it as a personality characteristic based on the organismic valuing process, particularly Rogers' emphasis on connecting experiences with the ability to behave in line with one's values (Wood et al., 2008). The construct has three subcomponents: 1) alienation from the self, which entails a person's capacity to bring to awareness one's "true experiencing" (i.e. what one is actually experiencing in the moment, devoid of external pressures and demands); alienation occurs when one is not aware of one's true experience and can be described as a feeling of "not knowing oneself". 2) Authentic living refers to one's ability to behave in line with one's true experiencing and values. 3) Accepting external influence refers to the degree to which a person considers other people's values and demands and behaves according to these demands, which can undermine authentic living and enhance the feeling of self-alienation if they are not aligned with the individual's true experiencing. Rejecting these demands enhances authenticity, which in turn is related to higher subjective and psychological well-being (Wood et al., 2008). Authenticity was also examined by Joseph (2016), who refers to its subcomponents as 1) 'know yourself' (listening to one's inner communications), 2) 'own yourself' (being able to reject external demands), and 3), and 'be yourself' (behaving in authentic ways).

Authenticity is also closely related to Siegel's (2011, 2018) concept of integration and mindsight. He proposes that well-being is in part based on the degree of integration across various levels of the self: 1) integration of consciousness (greater

self-awareness and regulation of emotions); 2) horizontal integration (integration of both sides of the brain); 3) vertical integration (connecting with the body, i.e. nervous system, using the "wisdom of the body"); 4) memory integration (making implicit memories explicit and finding resolution to troubling events in one's life); 5) narrative integration (finding a coherent life-narrative); 6) state integration (finding coherence between different social roles in our lives); 7) interpersonal integration (ability to better tune in with others); and 8) temporal integration (accepting uncertainty and life's inevitable end). Integration of self and one's social world in these various ways is the basis of mental health (Siegel, 2011).

The other aspects of well-being in the PGP model are life satisfaction and harmony (Kjell, 2011; Kjell et al., 2015). Harmony refers to a sense of balance and flexibility in integrating different facets of one's life (Kjell et al., 2015; Lomas, 2021). Lomas (2021) has suggested that because of Western biases toward individualism in research, harmony is an underappreciated aspect of well-being. The harmony in life construct described by Kjell et al. (Kjell, 2011; Kjell et al., 2015) considers harmony as a secondary-control aspect of living – that is, the individual is capable of letting go of their control and living harmoniously with the fluctuations of life together with one's self and the social and natural environment. On the other hand is well-being as a primary-control aspect of living (e.g. subjective well-being: Diener, 2009), which according to Kjell (2011) implies that the individual can exert control over their environment and does not need to take into consideration other beings and systems. Secondary control is related more closely to 'existential courage' in being able to let go of control and live in harmony with the environment in a peaceful co-existence. According to Rogers (1964), a person that is growing is oriented towards harmonizing with their surrounding world, possessing a benevolent attitude towards others and the world. In fact, Rogers (1964) considered the fully functioning person to be one who feels connected to the rest of humanity and the world, wishing for and enacting the well-being of the self and others.

Life satisfaction is considered to also increase during the personal growth process. Life satisfaction, as a domain of subjective well-being, is commonly defined as a hedonic form of well-being. Prior studies have found life satisfaction to be related to the other well-being constructs of the PGP model, specifically eudaimonia (e.g. authenticity) (see Vainio & Daukantaité, 2016; Keyes et al., 2002; Huta, 2016) and harmony (e.g. Kjell et al., 2015; Vainio & Daukantaité, 2016). However, it may be misleading to conceptualize life satisfaction as solely hedonic, as people may feel satisfied with their lives for eudaimonic reasons. It may be understood as a domain-independent concept (Diener et al., 1985). In other words, a person may be satisfied with their lives for a multitude of different reasons – because they feel that life is meaningful, because they have a sense of inner direction and self-acceptance, or because they have functional and supportive interpersonal relationships. Nevertheless, we include it as an aspect of well-being in the PGP model to provide a holistic perspective of well-being as a it is currently understood in positive psychology literature. In other words, as an individual engages with the

growth process, strengthening their capacities for acting authentically and in harmony with others, may also become more capable of recognizing aspects of their lives that they are satisfied with.

The PGP model thus posits that personal growth is the multidimensional enhancement of well-being capacity, encompassing eudaimonia (authenticity), harmony (as a secondary-control aspect of well-being: Kjell et al., 2015), and hedonia. We must emphasize that the personal growth process does not end in a permanent state of high well-being; the ups and downs of life can still have an impact, with the potential to disrupt the individual's engagement with the growth process and their experience of well-being. Well-being as a state is a transitory but integral part of the process itself, whereby an individual becomes increasingly capable of experiencing a sense of integration within and between the self and the social and natural worlds as well as a sense of satisfaction with one's life. In this transitory, "self-transcendent" state, the individual extends their circle of concern from the self and individual towards others and the collective wellness of the world (e.g. Kaufman, 2020).

The Personal Growth Process

When the basic conditions of growth (genuineness, empathy and unconditional positive regard, or psychological safety) are met and an individual's willingness to engage with growth is activated, the actual process begins to take root. Besides self-awareness (presented later), the subprocesses of the PGP model do not necessarily occur in sequential order. Moreover, a person moves goes forward and backward in the growth process continuously and is never really finished. In the following sections, we 1) present important subprocesses of the PGP model (see Figure 1), 2) explain how these subprocesses fit into the positive psychology literature, and 3) illustrate their interlinkages.

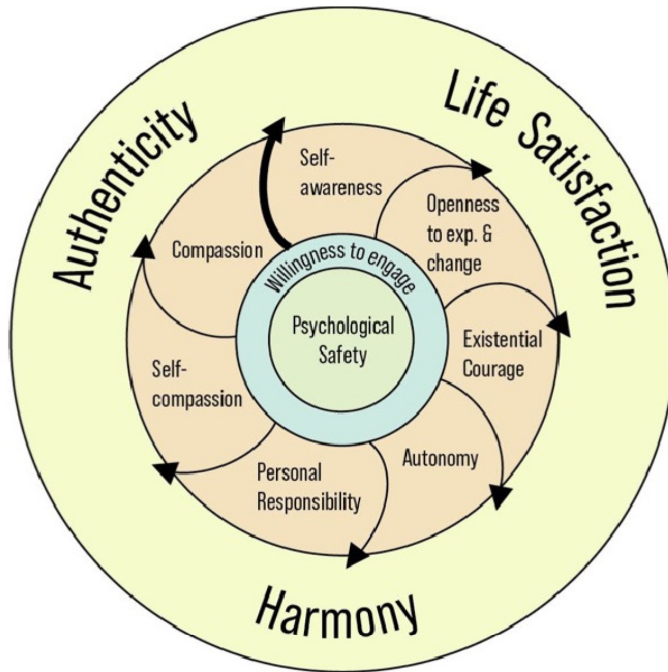

Figure 1. The Personal Growth Process (PGP) Model, illustrating the conditions for growth in the centre (psychological safety), and the personal growth subprocesses surrounding it, starting with self-awareness. The outer circle represents the outcome of growth, well-being defined as authenticity, harmony and life-satisfaction, enveloping the process.

Self-awareness

The self, in the context of the PGP model, refers to the multidimensional construct containing both one's intra- and interpersonal beings, meaning that one forms the self both from the collection of internal experiences as well as the way in which one connects and interacts with others in their social surroundings (Carden et al., 2021). The inner experiences one comes to understand are one's emotions (emotional awareness), sensations, thoughts, beliefs, attributions, values, etc. The outer experiences are the individual's capacity to be aware of themselves in social situations and understand how their behavior influences the situation and other people. Therefore, the self is understood here as both an internal subjective being but also as a more external and interpersonal being. The self is a natural self-organizing aspect of the human mind, whereby the individual is seeking coherence between self and environment via consistent behavior and cognition (see Ryan & Deci, 2018). Awareness, on the other hand, is the act of engaging in deeper insight

and understanding of events both internal and external to the person. It refers to the conscious understanding of such events and an ability to hold the meaning of those events in mind (e.g. Carden et al., 2021).

Self-awareness is well captured in constructs such as mindful awareness (Brown & Ryan, 2003; Kabat-Zinn, 2015), meta-awareness (e.g. Schooler et al., 2011), mindsight (Siegel, 2011, 2018) and mentalization (particularly the subscale of mentalization of self; Dimitrijevic et al., 2018), and refers here to the ability to listen to and better understand the self. Targets of such awareness include one's reactions, bodily sensations, thoughts, beliefs, attitudes, attributions, values, behavior, influence on others, etc. Rogers (1961) wrote that self-awareness takes the longest to unfold. Moreover, while it can be considered the starting point of the personal growth process, it is never finished.

Self-awareness is seen as a precursor to other subprocesses – including autonomy and integration of self (i.e. authenticity) – making it somewhat more fundamental in the model (see Figure 1). For instance, a sense of autonomy requires an understanding of which aspects of one's value system and thoughts are governed by outside sources (e.g. internalized societal norms, other people's ideas) and which are endorsed internally. Without self-awareness, it is unlikely that one will be able to distinguish these positions. Similarly, authenticity inherently entails 'knowing the self' (Wood et al., 2008; Joseph, 2016), making self-awareness intrinsic to its definition. Self-awareness is therefore suggested to come prior to the full development of authenticity. These suggestions would need further investigation.

Positive psychology research has shown that awareness is important for well-being (the focus of the growth process). For example, Dimitrijevic et al.'s (2018) concept of mentalization contains aspects of self-awareness, referring to the sociocognitive ability to recognize one's own thoughts and emotions. More specifically, it refers to one's ability to interpret one's own behavior through reference to intentional mental states such as emotions, thoughts, beliefs, and attitudes (Dimitrijevic et al., 2018). Mentalization has three subcomponents: 1) mentalization of the self, 2) mentalization of others and 3) motivation to mentalize (Dimitrijevic et al., 2018). Mentalization of the self (i.e. introspection) is particularly close to the PGP model's concept of self-awareness.

Self-awareness is also closely linked with the concept of mindful awareness, or the ability to focus on the inner workings of one's mind in the present moment (i.e. Meiklejohn et al., 2012). Mindful awareness has been defined variously a sensory or a cognitive process. As a sensory process, it refers to the gentle observation, without judgment, of the present moment and any inner experiences or thoughts arising in that moment with a continual directing of attention back into an 'attentional anchor' such as the flow of the breath (Meiklejohn et al., 2012). According to Brown and Ryan (2003), authors of the Mindful Awareness Attention scale, mindful awareness "can be considered an enhanced attention to and awareness of current experience or present reality.'' (p. 822). Similarly, Ryan and Deci (2018)

write that it is "defined as the open and receptive awareness of what is occurring both within people and within their context" (p. 268).

As a cognitive process, mindful awareness is defined as thinking with awareness (Langer, 1989, 2016) – that is, being actively aware of one's thought processes, attending to the notion that there are alternatives to one's views, and being able to actively adjust one's behaviour according to unfolding circumstances. Someone with a high level of cognitive mindful awareness tends a) have greater openness to novelty, b) is more alert to distinction, c) is more sensitive to context, d) has a greater implicit awareness of multiple perspectives and e) has a present-focused orientation (Langer, 2016). As is evident, whether defined as a sensory or as a cognitive process, mindful awareness is a similar concept to self-awareness, which we define as the ability to observe the self in the present moment without judgment.

Another closely related concept is Siegel's (2011) mindsight, which refers to the ability to see and understand one's own mind as well as the minds of others with greater clarity. According to Siegel (2018), this awareness is the "prime mover" of the growth process – personal transformation occurs through cultivating mindsight and rehearsing inward-directed attention to achieve a resolution. The subcomponents of mindsight are 1) insight into one's mind, 2) empathy towards others, and 3) integration between inner workings (e.g. nervous system, reactions) and the social world. Importantly, awareness directed at the self strengthens neural patterns in the brain relating to integration and transformation – as Siegel (2018, p. 19) writes, "Where attention goes, neural firing flows, and neural connection grows".

Drawing on the concepts of mentalization, mindful awareness and mindsight, we define self-awareness in the PGP model as holding one's mind in awareness and reflecting on one's way to interact with the social world. As both an intra- and an interpersonal phenomenon, self-awareness means engaging more in introspection (i.e. being aware of one's emotions, sensations, reactions, thoughts, beliefs, values, attitudes, opinions etc.) and reflecting on how one interacts and influences other people in the social world. Defined this way, self-awareness is a meta-awareness of one's mind, including how clearly one is able to understand one's mind, emotions and behavior and how it connects to their social world.

Openness towards experiencing and change

Another fundamental mental shift in the growth process is becoming more willing to openly orient towards one's true experiencing without feeling the need to put up facades or defenses (Rogers, 1961). This concept is distinct from the "openness" trait of the Big Five, which refers to a general tendency to be receptive to novel experiences and events. Openness to experiencing and change is the process of openly observing one's unfolding experiences and listening to the self, which over time crystallizes into a greater sensitivity to face one's self and how one experiences the world without a need to escape or deny it. It involves embracing complexity and fluidity, where one stops putting experiences into pre-defined categories. Each

experience is taken as new and uncategorized, and there is no need to immediately judge it (Rogers, 1961) and the need to have clear definitions, categories, certainty and sense of unchangingness is lessened (Rogers, 1961). The individual also becomes more open to change and embraces oneself as fluid rather than fixed (avoiding identity essentialism, Dulaney et al., 2019; Christy et al., 2019).

Important to this concept is the Rogers' (1961) notion that there is no real one 'true' fixed representation of the self (as identity essentialism would suggest; see Dulaney et al., 2019; Christy et al., 2019); the self is a fluid process that changes throughout life according to one's experience. As such, according to Rogers (1961) and the PGP model, somebody with a greater willingness to let go of identity essentialism (i.e. a fixed view of the self) and instead embrace the self as fluid in response to the environment can be considered to be farther along in the personal growth process.

Greater openness to experiencing and change is also theorized to be inversely related to the need for cognitive closure. Need for cognitive closure refers to a desire to receive information about the world (and the self) that is clear, unambiguous and unlikely to change (Kruglagski & Webster, 1996). Adopting a growth mindset (Dweck, 2006) might enter the personal growth process at this point. Also called an incremental mindset, a growth mindset is an attributional style whereby one considers themselves to be capable of changing through effort – in other words, one embraces the change in oneself through time and one's own intentional actions. A fixed mindset, by contrast, refers to the attributional style that one is an unchanging pre-determined entity (Dweck, 2006; Yeager et al., 2019). This openness to change applies as much to personality characteristics as life circumstances (Rogers, 1961). The need for security, as represented in a fixed mindset (Dweck, 2006), is lessened as the individual becomes more open to the changes that life brings. This leads us naturally to the next point about existential courage.

Existential courage to face adversities in life

Courageously facing and accepting life's ups and downs is another turn in the growth process. Various existential-humanistic/positive psychology thinkers such as Frankl (1946/1992), Wong (2010; Wong et al., 2021) and Purjo (2020) indicate that a fundamental element of human life (and personal growth) is the cultivation of 'existential courage' in the face of opposition and hardships. This means orientating towards meaning in difficult situations to find the resolution and courage to weather that adversity, similar to concepts like hardiness (Maddi et al., 2004, 2006) and sisu (Lahti, 2019). In the PGP model, existential courage entails an attitude to courageously face adverse life situations with grace, responding flexibly and appropriately (i.e. changing course when necessary).

Maddi (2004, 2006, 2013) defines hardiness as the belief that one can deal with adversities in life by turning them into opportunities. Hardiness comprises three main aspects: commitment, control and challenge. Commitment is the willingness to not sink into isolation, but rather actively orient towards the people and events

involved in the adversity. Control is the willingness to avoid passivity and exert active control over the situation. Finally, challenge describes the willingness to resist fear of change and seeking easy comforts, taking the current situation with its adversities head on and believing that it can help one grow. According to Maddi (2004), all three components are necessary for strong hardiness. Rehearsing hardiness also depends on how the adversities themselves are seen, i.e. they are 1) developmental adversities rather than devastating catastrophes, 2) manageable rather than unmanageable, and 3) important to engage with rather than run away from (Maddi, 2004). Maddi (2004, 2013) has suggested that hardiness may be a way to operationalize existential courage.

More recently, Lahti (2019) examined sisu, a malleable trait (i.e. able to be enhanced) considered to be part of the Finnish national consciousness that describes an embodied fortitude to face adversities by tapping into a 'second wind' of mental strength – that is, the ability to exceed our apparent limits. Lahti (2019) conducted an extensive qualitative thematic analysis (N = 1208) of sisu, extracting three main components: 1) extraordinary perseverance – enduring hardships, finishing what one starts, doing the impossible and exceeding oneself in face of insurmountable adversities; 2) an action mindset, or taking action against adversities with boldness, facing one's fears head-on, and not being bound by the observed limitations of the situation; and 3) latent power – a visceral and somatic (rather than conscious) reserve of willpower, a 'second wind' through which one draws the strength to face adversities. During the personal growth process, the enhancement of existential courage may involve the utilization of sisu.

Sense of autonomy (internal locus of control)

Rogers (1961) observed during his therapy sessions that individuals often gradually became less heteronomous (externally directed) and more autonomous (internally directed) after realizing which thoughts, beliefs, and values they themselves endorsed and which came from externally placed demands and pressures. A better understanding of one's own internal phenomena means that one is more likely to enact them in daily life – one feels that they are in the driver's seat rather than a passenger. The belief that one is able to directly impact one's life and determine one's own future is called an internal locus of control (in contrast to an external locus of control, or the belief that one is controlled by outside forces; e.g. Crick & Dodge, 1994). With an internal locus of control, the individual gains a greater sense of autonomy over many aspects of their lives, from small daily attitudes and actions to long-term instances of planning and goal setting. They are less likely to perceive themselves as a passive victim of circumstances or others' whims. These feelings in turn strengthen one's ability to distinguish between one's own thoughts and beliefs and those that arise from the influence of close (or not-so-close) others in one's life, allowing them to reject those that are incongruent with their selves and embrace those that are congruent. This distinction can help one in pursuing more self-concordant actions (e.g. Sheldon, 2014; Sheldon & Elliot, 1999; Milyavskaya et al., 2014).

Autonomy is one of the basic needs of self-determination theory (SDT; Ryan & Deci, 2018) and refers to having volition and self-direction in one's decisions and actions (Ryan & Deci, 2018). Autonomy is also one of the six subcomponents of Ryff's (1989) theory of psychological well-being. While for SDT, autonomy is seen as a prerequisite of or an essential need for well-being (Ryan & Deci, 2018), it is considered an outcome in psychological well-being theory (Ryff, 1989) – in other words, it is an aspect of well-being itself.

In the PGP model, autonomy is neither a need/prerequisite of nor a component of well-being, but a skill. Whereas a need is a stable characteristic that is fulfilled mostly by one's social environment, autonomy in the PGP model can be rehearsed and developed as well as fall into disuse – it is, in other words, dynamic. It refers to an active process whereby one cultivates (or does not) an internal locus of control. Similarly, distinct from Ryff's conceptualization of autonomy as an aspect of well-being, we conceptualize it as an element of higher functioning that enhances one's capacity for well-being in tandem with the other subprocesses herein.

A common criticism of autonomy is an 'individualized bias' whereby it is considered independent from others' influence (e.g. Becker & Marecek, 2008). However, as discussed by Ryan and Deci (2018) autonomy is not strictly about independence, but more about volition – to be able to act in a manner of one's choosing as opposed to acting independently of others. This is a subtle but important difference (Ryan & Deci, 2018). When autonomy is understood more as volition, we can see that an autonomous person can still be interdependent with and highly influenced by others through social bonds. In the PGP model, autonomy is more about volition than about independence.

Taking responsibility for the self and others

The next turn is taking responsibility for one's own life and how it affects other's lives (Rogers, 1961; Maurer & Daukantaitė, 2020). Through a heightened awareness of one's thoughts, beliefs, and values and the ability to act in self-concordant ways (see Sheldon, 2014), one may understand the essential responsibility one has over one's own choices, behaviors and outcomes. One understands that there is a limit to one's control over external forces, but also that one is responsible for one's actions in spite of that limited control. Importantly, acknowledging this responsibility does not give one license to ruthlessly blames oneself for uncontrollable suffering; rather, it helps one recognize situations in which one has control and exercise that power responsibly. At the same time, the person may also come to understand their influence on others and can claim responsibility on this influence on others.

Such responsibility is particularly important for individuals high in a sense of autonomy, which was noted by both Wong (2010) and Arslan and Wong (2022). Freedom without responsibility can have destructive consequences, meaning that taking responsibility for one's actions is essential for a meaningful, value-prone life (Wong, 2010; Arslan & Wong, 2022). These researchers have approached responsibility along two lines: personal and social (Arslan & Wong, 2022). Personal

responsibility refers to recognizing one's accountability for one's and others' well-being (see Arslan & Wong, 2022), whereas social responsibility refers to the civic and moral values paired with action that benefit society at large (see Arslan & Wong, 2022). According to Wong (2010), responsibility is an essential component of meaning in life. He describes this in his PURE model, which describes the components of meaning in life: Purpose (having purposeful life goals), Understanding (the demands of each situation in life), Responsibility (taking responsibility over one's purpose and actions) and Evaluation (making continuous evaluations of one's choices and their value-base) (see Wong, 2010).

Within the PGP model, taking responsibility for the self, others and the whole system (the world) is an inherent part of the growth process. The individual, having the capacity to be more autonomous in their actions and cognitions, comes to realize their role in their own life as well as the greater social world as agents of change. This acknowledgment comes with a greater sense of responsibility. Claiming this responsibility for oneself is a leap towards maturity and growth.

Befriending the self: Self-compassion and trust in one's organism

A heightened understanding of the self and a stronger sense of autonomy may also cultivate a more loving and compassionate attitude towards the self. Rogers (1961, 1980) saw that some clients who felt better able to trust their experience and understand their selves also had a sense that they liked and accepted what they came to learn about themselves, usually without any conditions of worth (see Patterson & Joseph, 2006). In other words, the unconditional positive regard in their social environment (necessary for growth to take root) was mirrored within themselves – an unconditional positive self-regard. At this point, one's source of psychological safety may become an inner resource. Patterson and Joseph (2006) found that such unconditional positive self-regard was related highly to psychological well-being and happiness. Similarly, Flanagan et al. (2015) found that post-traumatic growth was also related to higher levels of unconditional positive self-regard.

Positive self-regard is a related construct to self-compassion, which Neff (2003, 2011) describes as a kinder attitude towards the self, awareness of and compassion towards one's hardships, and an understanding of how those hardships relate to the shared human condition. In other words, self-compassion is the implicit understanding that one is not isolated in their experiences, but that such experiences are shared by a multitude of others (Germer & Neff, 2019; Neff, 2003). This orientation is much in line with the compassionate attitude Rogers (1961) observed in his clients.

In the PGP model, the subprocess of self-compassion consists of both a sense of trust in and unconditional regard for the self. This process of becoming friends with oneself may also entail being more comfortable in one's own company and more capable of enjoying solitude. Finnish psychotherapists Hellsten and Tuomikoski (2016) proposed that finding comfort in solitude is a key quality of personal growth. In the PGP theory, personal growth involves a movement away from the idea that

solitude is a painful state of loneliness, towards a fruitful state of reinvention, relaxation and even flourishing (see a similar argument on solitude by Weinstein et al., 2021).

Here, there is a clear connection between self-awareness, openness towards experiencing and change, and self-compassion. Rogers also observed in self-compassionate individuals a tendency to better trust their own "organismic experience". Rogers (1961, 1963) describes this as a feeling of being able to trust in the flow of one's experience and use it as a guide for one's decisions and behavior. As with the previous subprocesses, when one is more capable of being open towards one's experiencing, one is able to better befriend the self and can also hold in awareness one's experience (reactions, thoughts, beliefs, attitudes, representations) without the need to be defensive. One feels that their experience is trustworthy and will guide them towards growth. This is in a sense a greater trust in one's 'gut-feeling' (Rogers, 1961, 1963). Accordingly, there may be a particularly powerful connection between self-awareness, openness towards experiencing and change, and self-compassion.

Compassion for other people and the world

Self-compassion naturally extends to compassion for others (e.g. see Lepron et al., 2015). Throughout the growth process, a person gains insight into the interconnectivity between themselves, other human beings, and the wider world. These feelings may cultivate a greater sense of 'common humanity' (Neff, 2003) and greater feeling of compassion for other people and the world. Rogers (1964) wrote:

> "I find it significant that when individuals are prized as persons, the values they select do not run the full gamut of possibilities. I do not find, in such a climate of freedom, that one person comes to value fraud and murder and thievery, while another values a life of self-sacrifice, and another values only money. Instead there seems to be a deep and underlying thread of commonality. I believe that when the human being is inwardly free to choose whatever he deeply values, he tends to value those objects, experiences, and goals which make for his own survival, growth, and development, and for the survival and development of others. I hypothesize that it is characteristic of the human organism to prefer such actualizing and socialized goals when he is exposed to a growth promoting climate" (Rogers, 1964, p. 166)

In other words, Rogers (1964) observed that people, within a growth promoting climate, tend to develop a sense of common humanity and compassion for others' development and well-being. This suggests that personal growth is an inherently prosocial process.

Some researchers have recently taken on the task of measuring compassion. Pommier, Neff, and Tóth-Király (2019) created a compassion scale on the basis of the self-compassion construct by Neff (2003), defining compassion as

‘entailing more compassionate and less uncompassionate responding to others in terms of emotional responding, cognitive understanding, and paying attention to suffering’ (p. 1–2). Their concept entails three subcomponents of compassion: 1) kindness towards others, 2) sense of common humanity (i.e. shared experiences, such as suffering), and 3) mindfulness (i.e. caring more about the suffering of others). Similarly, Gilbert (2014) defines compassion as having a strong sensitivity towards the suffering of other people as well as the self, as well as a willingness to prevent and alleviate that suffering.

A related concept is benevolence, defined as the feeling of being able to contribute to the betterment of other people’s lives and the world at large (Martela & Ryan, 2016, 2020). Benevolence has been shown to explain variations in subjective well-being (Martela & Ryan, 2016) and may be the fourth basic psychological need in SDT (Martela & Ryan, 2020). Andersson et al. (2021) found that benevolence was positively related to self-compassion and negatively related to mental health symptoms such as depression, stress and emotional exhaustion, suggesting that benevolence is a positive mental health factor.

Based on the above, within the PGP model, growth entails a movement towards greater compassion and benevolence, which may relate to an individual’s growing understanding that they are fundamentally connected to the rest of humanity. A stronger connection to the world may entail greater care for the world and compassion for the lives of others, both near (immediate family and friends) and far (distant people and strangers).

Discussion

Implications for Theory

The PGP model described above has several implications for theory within the field of positive psychology. First, it provides a structure for the complex and as yet obscure process of personal growth. While a familiar phenomenon in both academic and lay discourses, personal growth process still lacks a unified theoretical framework in positive psychology. The PGP model provides such a framework through theorization of the interconnections between well-evidenced positive psychological constructs (e.g. autonomy, growth mindset, compassion, self-compassion, harmony), based on the rich therapeutic tradition of Carl Rogers. As noted above, researching each construct separately has been important for deepening our scientific understanding of their place within the human experience, but it is equally important to understand how these concepts are linked and integrated across time (see a similar argument in Maurer & Daukantaitė, 2020).

Second, the model proposes that well-being, far from being an ultimate state of superior functioning, is fundamentally embedded within a series of parallel

subprocesses that serve as resources for building one's capacity for well-being. In other words, the subprocesses of self-compassion, autonomy, compassion for others, etc. serve to enhance an individual's capacity for self-integration and harmony. Furthermore, we suggest that the individual's overall mental health (lack of symptoms, presence of well-being) may improve throughout the personal growth process.

Conceptualizing well-being as a concomitant process with each of the mental shifts noted above has wider implications for how we pursue the enhancement of well-being, particularly in terms of interventions in schools or workplaces. Indeed, by directing efforts towards the most fundamental aspects of the model for personal growth – willingness to engage with the growth process, psychological safety, and self-awareness – interventions may be able to help foster more organic, longer-term well-being enhancement.

A further implication of this model is that it positions personal growth not as a Westernized individualized process but as a fundamentally social one. Personal growth is often coupled with the notion of the "self-made man", someone who is able to exist and thrive on their own devices (e.g. De Keere, 2014) and both Rogers and positive psychology as a field have been criticized for being too individualistic (Friedman, 2008; Becker & Marecek, 2008). In contrast, the PGP model is defined by the social, which is essential for the initiation of growth (psychological safety) as well as one of the 'goals' (prosocial tendencies). An individual engaged with growth is far from "self-made" – they are a fundamentally interconnected being influenced by the systems in which they are embedded. One of the 'outcomes' of growth – harmony – is also aligned with Eastern conceptualizations of well-being, which are often disregarded due to Western biases in research (Lomas, 2021).

This article aimed to introduce a novel model of personal growth as a process using knowledge from humanistic psychology. It does not aim to be a systematic review of the different approaches to personal growth in the research literature (although such a review should be undertaken in the future). Although we ground the model in existing empirical evidence, the model itself needs to be tested – does the process unfold through these suggested mental shifts or subprocesses? What is missing? Because the personal growth process is chaotic, longitudinal studies of trajectories of growth – ideally based on holistic, person-centred methodologies – are necessary to support for this model, alongside qualitative studies that help deepen our understanding of personal growth as an experience.

We have several suggestions for how the study of personal growth, and specifically the PGP model, could be taken forward. First, mixed-methods studies may be useful for testing and refining the model. Qualitative interviews could be conducted on individuals who perceive themselves as having personally grown, in order to enrich our understanding of the subprocesses and 'outcomes' of the PGP model. Further insights may be gleaned by interviewing therapists with extensive experience of therapeutic change, who may be able to offer another perspective on how the subprocess or 'outcomes' unfold. It may also be useful to explore personal

growth in different age groups, to clarify how the process differs across the life course. This line of inquiry would enable us to better define the aspects of the model and aid in operationalizing them for measurement. It is essential to develop valid measurements of the subprocesses in order to test the PGP model on a larger scale. Also, we suggest testing specific hypotheses about the role of psychological safety, as well as the more 'fundamental' role of self-awareness, in the PGP model. This could be done through longitudinal structural equation modeling studies looking at mediation effects.

The present paper is a first step towards explanation of personal growth as a process. However, far more extensive discussion is warranted, including comparison with other models and theories of growth and developmental change. For instance, the PGP model proposes that self-awareness is integral for growth, whereas Robitscheck et al. (2012) suggest that personal growth may happen outside of our conscious knowledge (Robitscheck, 1999). However, even in Robitscheck et al.'s (2012) concept of personal growth initiative, intentionality of growth is central. Moreover, Robitscheck (1999) notes that such unintentional change is negatively related to well-being. Such discrepancies and similarities between personal growth models and models of developmental change is necessary to get a more comprehensive understanding of personal growth as a process. Such comparisons should be the subject of future theoretical and empirical papers.

Implications for practice: The importance of social atmosphere

We have emphasized above that personal growth, far from being an individualized process, is prosocial and deeply embedded within one's social environment. This suggests that nurturing this process is a common social responsibility. The social environment is essential to growth promotion (Joseph, 2021), which means that environmental conditions that cultivate psychological safety are critical in any situation in which people's personal growth is of high value. Such situations may include raising children, forging friendships, achieving a successful therapeutic relationship, successfully implementing a positive psychology intervention at schools or workplaces, working in a team, or any other situation in which people can develop and grow.

Take, for example, implementing a positive educational intervention (Norrish, 2015; Norrish et al., 2013). The main aim of positive education is to promote youth well-being by bringing the science of positive psychology into the classroom. Commonly, the greatest care is taken on the content of the education – what is being taught. However, if that focus were to shift towards the personal growth process, the context is much more salient – how can the growth process be facilitated in this context? This shift in focus entails a shift in priorities – rather than content, the "quality" of the interpersonal atmosphere takes precedence, which signals a fundamental change in how positive interventions are planned and implemented in the classrooms. Most notably, it becomes clear that the intervention is ultimately an

interaction between individuals in which the recipient can experience the situation as growth-enhancing, neutral, or in the worst-case scenario even stifling. With more awareness of the importance of the social context, interventions may be more likely to succeed in promoting recipients' personal growth. Additionally, the PGP model would implicate which types of well-being resources (subprocesses) should be targeted with interventions – cultivating the various subprocesses with different exercises would be advisable.

The PGP model's focus on context, namely psychological safety, also highlights the importance of considering different temperaments and personalities in the classroom, especially in the case of highly sensitive students (see Greven et al., 2019; Boyce, 2019). Highly sensitive students might be simultaneously the most likely to benefit from an intervention (as long as they perceive the environment as supportive; Nocentini et al., 2018) and most likely to suffer in unsupportive environments (Belsky & Pluess, 2009). Ensuring psychological safety for such students may involve not forcing them to expose their inner feelings in front of others, not pushing them to perform, or not making them participate in an active manner (see discussion on how to support highly sensitive children in Boyce, 2019).

The PGP model may also be useful in psychotherapy or counselling. A therapist or a counsellor could use the PGP model to target different subprocesses through various exercises, such as using self-reflection of values, cultivating self-compassion, or rehearsing mindfulness (aiming to enhance self-awareness and openness to experience), while ensuring that this happens in a psychologically safe atmosphere. The PGP model, in other words, provides a framework for practitioners to be able to target the aspects suggested most relevant for personal growth.

Finally, the PGP model may be useful in developmental research and practice. Based on the PGP model, personal growth may be supported through autonomy-supportive parenting (e.g. Benito-Gomez et al., 2020), which focuses on supporting authentic expression and mutual engagement in reflection of the self, others and the world (to enhance self-awareness, perspective and openness to experiencing and change), resting on a foundation of unconditional positive regard for the child (see similar arguments for the need for unconditional positive regard and scaffolding to enhance adolescent authenticity by Harter, 2012).

Conclusion

The PGP model provides a framework of the process of personal growth, representing the first formal attempt to explain what happens when an individual experiences growth. The model describes personal growth as a highly socio-cognitive process whereby the social environment plays a crucial enabling (or stifling) role. The personal growth process itself is suggested to be a long-term fluctuating process involving shifts in self-awareness, openness to experience and change, higher levels of existential courage in facing life's ups and downs, sense of autonomy (internal locus of control), ability to take personal responsibility,

cultivating greater compassion for the self, and finally compassion for other people and the world, all of which coincides with a growing capacity for well-being (a sense of integration, authenticity, harmony and life satisfaction). The personal growth process is a natural change process, but its unfolding is largely dependent on the basic needs provided by a psychologically safe social environment. We thus have a social responsibility to cultivate social environments that can promote instead of stifle the personal growth process.

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Article III

PLOS ONE

RESEARCH ARTICLE

Testing the psychometric properties of the Swedish version of the EPOCH measure of adolescent well-being

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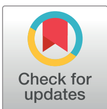

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Abstract

The EPOCH Measure of Adolescent Well-being measures five positive indicators of the well-being of adolescents: engagement, perseverance, optimism, connectedness and happiness. This five-factor structure along with other indicators of validity and reliability were supported for the original English version and the Chinese version. In this study, we tested the psychometric properties of the Swedish version of the EPOCH with a sample (n = 846) of Swedish high school adolescents aged 16–21 years (M_{age} = 18, SD = .85). The participants answered a questionnaire containing the EPOCH, Coping Self-Efficacy Scale, and 21-item Depression, Anxiety, and Stress Scale (DASS-21). A confirmatory factor analysis supported a the five-factor, inter-correlated model. The internal consistency was good for all the EPOCH subscales (Cronbach's α = .76–.88, McDonald's ω = .77 –.88). The criterion validity was established by replicating correlations between the five EPOCH subscales and positive (coping self-efficacy) and negative (DASS-21) aspects of well-being. This study shows that the Swedish version of the EPOCH is suitable for assessing multiple dimensions of adolescent well-being.

Introduction

Positive mental health is conceptualized not only as a lack of mental health problems such as anxiety, stress and depression, but also by the presence of positive psychological well-being indicators such as perseverance, optimism and happiness [1,2]. Measuring adolescent well-being using a multidimensional approach—that is, encompassing multiple positive indicators—is important, given the multitude of concepts relevant for young people's well-being [3]. Furthermore, as well-being comprises both hedonic ("feeling good") and eudaimonic ("functioning well" [4]) aspects, it is important to take both into consideration when measuring well-being. In Sweden, a valid multidimensional measure of adolescent well-being does not yet exist. This study therefore aims to validate the Swedish version of the EPOCH Measure of Adolescent Well-being (hereafter, EPOCH) [2]. The EPOCH measure [2] has the theoretical strength of being both a multidimensional measure (consisting of five factors of well-being: engagement, perseverance, optimism, connectedness and happiness) and a measure of both the hedonic and eudaimonic aspects of well-being, discussed more next. Furthermore, the

made sure that the participants knew that their data would not be publicly shared. However, it is possible to request approval for a copy of the de-identified dataset from the Data Protection Office at Lund University, Box 117, 221 00 Lund, Sweden, telephone: +46 46 222 0000, dataskyddsombud@lu.se (please quote project number 2019-06552).

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EPOCH measure is designed to operationalize PERMA theory of well-being [5] for adolescents. The PERMA model (discussed in the next section) is the main model used in positive educational studies; accordingly, having a valid measure of it will be important particularly in the positive educational research context.

Well-being theories and the EPOCH measure of adolescent well-being

Traditionally, well-being has been approached from either the hedonic or the eudaimonic viewpoint [4,6], although debate about the validity of this distinction also exists [7,8].Hedonic well-being broadly refers to emotional well-being, including frequent positive emotions and infrequent negative emotions, as well as a sense of life satisfaction [4]. Student life satisfaction is commonly measured with the Students' Life Satisfaction Scale [9], which measures students' context-free estimation of their life satisfaction as a whole. This scale has been used in both clinical and non-clinical studies with student samples ranging in age from 8 to 18 years [10,11]; however, it is not a multidimensional measure. Separating the different dimensions of well-being can help to recognize areas in which students particularly flourish or flounder, and can suggest further efforts for different types of intervention in areas that are lacking [3]. For instance, the Multidimensional Students' Life Satisfaction Scale [12,13] for 8- to 18-year-olds measures student life satisfaction across five important domains: school, family, friends, self and living environment.

Eudaimonic well-being refers to well-being resources and positive functioning, such as a sense of meaning in life, authenticity, personal growth, autonomy and positive relationships [4,6,14]. Although thorough consideration of the debate about the validity of distinguishing between various types of well-being is beyond the scope of this article, some researchers advocate for the distinction of hedonia from eudaimonia [e.g. 4,6,15], whereas others oppose this distinction [e.g. 7,8]. For instance, Longo et al. [16] studied the factor structure of Huppert and So's [17] 10 well-being indicators—happiness, emotional stability, vitality, resilience (aspects of "feeling good", or hedonia), competence, engagement, meaning, optimism, positive relationships and self-esteem (aspects of positive functioning, or eudaimonia)—in two different studies and found that instead of two distinct factors, the items loaded onto a single higher-order well-being factor. However, two factor analytic studies, Linley et al. [18] and Joshanloo [19], found evidence for distinct factors. In any case, a full account of well-being arguably requires consideration of both the hedonic and eudaimonic aspects. One theory encompassing both aspects is the PERMA theory of well-being [5], which approaches well-being as a multidimensional concept consisting of positive emotion, engagement, positive relationships, meaning and achievement.

The PERMA model is used commonly as a theoretical framework for school applications of positive psychology, called positive education [20], with an emphasis on providing a multidimensional view of well-being for school youth [20]. Positive education involves bringing the science of well-being into schools through well-being lessons or through influencing the school culture in other ways [20]. The PERMA profiler, a measure developed for the PERMA model, was validated in its original development study with an international sample recruited online [21] and in Turkish [22], Australian [23], Italian [24] and Indonesian [25] samples. Although some results were mixed or unsatisfactory [e.g. 26], generally the results have supported the five-factor model with high internal and test-retest reliability, factor structure and construct validity [21,24,25].

Since the PERMA model is the main theoretical framework used in positive educational studies [20,27], it is important to validate a measure based on it for adolescents. Kern et al. [2] wanted to translate the PERMA model to better suit adolescents and therefore operationalized

a measure of optimal adolescent functioning that reflects both the attitudes and characteristics related to optimal outcomes for adolescents: the EPOCH Measure of Adolescent Well-being. The EPOCH consists of five subcomponents, including engagement, perseverance, optimism, connectedness and happiness. The subcomponents reflect the PERMA categories, albeit using different language, and relate to similar outcomes according to Kern et al. [2]. The motivation for including characteristics (i.e. personality traits such as perseverance) in a definition of well-being is practical: the EPOCH was developed to be used in particular positive educational intervention contexts, in which different aspects relevant for optimal adolescent functioning should be assessed in order to develop, improve upon, and evaluate interventions. Kern et al. [2] claim that using the EPOCH categories can help in developing more targeted interventions and show where adolescents might be lacking in particular. Although not a diagnostic tool, the EPOCH can aid in the development and assessment of interventions [2] aiming to promote other positive psychological constructs, such as optimism and perseverance, on top of happiness.

In the EPOCH, *engagement* refers to the ability to become absorbed in what one is doing, with its most intense form referring to a sense of 'flow' as defined by Csikszentmihalyi [28]– a state of complete absorption is what one is doing with the loss of a sense of time and self. *Perseverance* is the ability to keep pursuing one's activities and goals even in the case of setbacks on one's way. Similar concepts include grit, defined by Duckworth et al. [29] as 'passion and perseverance to long-term goals'. *Optimism* refers to a sense of hopefulness about the future along with a tendency to have an explanatory style in which positive events are attributed to global and internal causes (i.e. one feels a sense of agency in making positive events possible), whereas negative events are attributed to specific and external events (i.e. one feels not directly accountable for negative events and these events are just temporary occurrences) [2,30]. *Connectedness* refers to one's sense of being cared for as a person by others through positive interpersonal relationships. Finally, *happiness* refers to the common occurrence of positive emotionality, such as joy and a love of life [2].

Support was found for this five-factor structure of the EPOCH, both for the English [2] and Chinese versions [31]. Kern and colleagues [2] evaluated the factor structure of the original English EPOCH scale when testing the psychometric properties of the scale via 10 different studies with over 4,000 adolescents from the USA and Australia. The five EPOCH subscale scores were found to have high internal consistency (happiness had the highest at $\alpha = .87$, and engagement the lowest at $\alpha = .76$). The subscale scores were not correlated with age and gender but were weakly to strongly correlated with other well-being indicators (significant correlations ranged from $r = .12$ for optimism and autonomy to $r = .83$ for happiness and life satisfaction) and negatively correlated with mental health symptoms (ranging from $r = -.29$ for optimism and anxiety to $r = -.53$ for happiness and depression). Furthermore, Zeng and Kern [31] tested the Chinese version of the EPOCH with a sample of 17,854 adolescents from different regions in China and found that the five-factor structure was supported with good model fit. The subscale scores were internally consistent, but its test-retest reliability was low (with a range from $r = .12$ to $r = .21$). The criterion validity was good: the subscale scores were consistently positively correlated with various well-being indicators (ranging from $r = .16$ between happiness and growth mindset to $r = .57$ between happiness and coping) and negatively with mental health symptoms (ranging from zero correlation between engagement and anxiety to $r = -.25$ between happiness and depression). The correlations with mental health symptoms were slightly weaker than were those with the positive indicators. In general, engagement showed the weakest correlations with well-being indicators as compared to the other subscales, while optimism and happiness showed the strongest correlations.

Current study

In this study, we investigated the psychometric properties of the Swedish version of the EPOCH Measure of Adolescent Well-being. To establish its criterion validity, we evaluated its correlations with coping self-efficacy, a positive indicator of well-being [32], and anxiety, stress and depression symptoms, all of which are negative indicators [33].

In line with earlier studies [2,31], we expect the Swedish version of the EPOCH to have a five-factor structure with reliable subscales. Furthermore, we expect to find a positive association between the EPOCH and coping self-efficacy and a negative association between the EPOCH and mental health symptoms. More specifically, we expect that the engagement subscale will show the weakest association with well-being and mental health indicators (coping self-efficacy and DASS-21, respectively), while the happiness subscale will show the strongest association (thus replicating [2,31]). Finally, based on previous research [2], we also expect the EPOCH to have weak relationships with gender.

Materials and methods

Participants

The study was administered online on the school's webpage. Interested students could click on the study link. Altogether, 1212 students opened the study link and out of those 852 (70.3%) responded. We excluded six participants because they did not correctly answer two or more control questions randomly placed in the survey to assess attentiveness, leaving a total of 846 participants. The participants came from three schools matched in terms of study programmes, sizes and reputation for having highly motivated students in three Swedish cities. Participants ranged in age from 16 to 21 years, with a mean age of 18 years (SD = .85). The majority of the participants (n = 555, 65.6%) were female, 286 (33.8%) were male, and 5 (0.6%) reported 'other'. Most participants were born in Sweden (n = 722, 85.3%), with either one or both parents being born in Sweden (n = 575, 68%). All the students were enrolled in a Swedish school in a Swedish-speaking program. Therefore, their Swedish was considered fluent for the purposes of validating the EPOCH.

Procedure

The data were collected during the baseline assessment of a larger project assessing students' mental health during the COVID-19 pandemic. The battery of measures was distributed through the websites of three schools in three Swedish cities in May 2020 to be completed at home, since all schools were closed due to the pandemic. The school administration agreed to participate in the study. Ethical approval for the study was obtained from the Swedish Ethical Review Authority. All students were over age 15, meaning that, according to Swedish ethical guidelines, they could give their own informed consent and no parental informed consent was required. The students were given information about the study, which emphasized that their responses would be kept anonymous and confidential. All participants provided informed consent before participating in this study by selecting a box on an online form, indicating their understanding of the nature of the study and that they agreed to participate.

Measures

EPOCH measure of adolescent well-being. All participants responded to the 20-item EPOCH, which contains subscales of engagement (e.g. '*I get completely absorbed in what I am doing*'), perseverance (e.g. '*I finish whatever I begin*'), optimism (e.g. '*I think good things are going to happen to me*'), connectedness (e.g. '*When I have a problem, I have someone who will*

be there for me') and happiness (e.g. '*I love life*'). Each item is rated on a 5-point Likert scale ranging from 1 '*Almost never*' to 5 '*Almost always*'. A back-translation process was used to translate the scale into Swedish [34]. The scale was translated into Swedish by two native Swedish speakers, and then back-translated into English. Another native English speaker checked the back-translation for similarity of meaning with the original scale. There was high level of agreement in the similarity of meanings of all items in the scale. Kern et al. [2] and Zeng and Kern [31] previously found that all subscales had good internal consistency, with Cronbach's α values ranging from 0.78 to 0.89 [31]. The internal consistency of the EPOCH for this study is reported in the Results section.

Coping self-efficacy scale. The Coping Self-Efficacy Scale (CSE) [32] consists of 13 items in three subscales: using problem-focused coping (e.g. '*Think about one part of the problem at a time*'), stopping unpleasant emotions and thoughts (e.g. '*Take your mind off unpleasant thoughts*') and getting support from friends and family (e.g. '*Get emotional support from friends and family*'). The items are rated on an 11-point Likert scale ranging from 0 ('*cannot do at all*') to 10 ('*certain can do*'). In this study, the internal consistency of the whole scale was high (α = 0.89), as was that of the subscales: using problem-focused coping (α = 0.85), stopping unpleasant emotions and thoughts (α = 0.88), and getting support from friends and family (α = 0.78).

Depression, anxiety and stress scale. The DASS-21 [33] consists of 21 items in three subscales: depression, which measures dysphoria, self-depreciation, lack of interest and hopelessness (e.g. '*I felt that I had nothing to look forward to*'); anxiety, which measures affective experience of anxiety, autonomic arousal and muscle effects (e.g. '*I felt I was close to panic*'); and stress, measuring chronic arousal (e.g. '*I found it hard to wind down*'). The items are rated on a 4-point Likert scale ranging from 0 ('*did not apply to me at all*') to 3 ('*applied to me very much, or most of the time*'). In this study, the internal consistency of the whole scale was high (α = 0.91), while the subscales also satisfactory to high internal consistencies: depression (α = 0.89), anxiety (α = 0.73) and stress (α = 0.81).

Data analyses

The factor structure of the Swedish version of the EPOCH was tested using confirmatory factor analysis (CFA) with maximum likelihood estimation and robust standard errors. These analyses were conducted using Mplus version 8 [35]. Replicating Kern et al. [2], in addition to a five-factor model with inter-related latent variables corresponding to each EPOCH subscale, we estimated a one-factor model (i.e. all items loaded onto a single well-being factor) and a second-order model (i.e. items loading onto five factors, which in turn load onto a single overarching well-being latent construct) and compared these latter two models to the first one. The goodness of fit of the models was evaluated using the χ^2 statistic, where a nonsignificant value represents an acceptable fit. Because of the chi-square test's sensitivity to sample size [36], we also computed several approximate fit indices with conventional cutoffs: the root mean square error of approximation (RMSEA) with 95% confidence interval, Tucker-Lewis Index (TLI), comparative fit index (CFI) and standardized root mean square residual (SRMR). Acceptable fit standards are as follows: TLI and CFI $\geq$ 0.90, RMSEA $\leq$0.08 and SRMR $\leq$0.10 [37]. To test measurement invariance across genders, we compared increasingly constrained models to a less constrained model, focusing on the change in CFI (ΔCFI) and RMSEA (ΔRMSEA). We considered ΔCFI $\leq$ 0.010 and ΔRMSEA $\leq$ 0.015 [38,39] as indicative of the invariance assumption holding. The internal consistency was estimated with the use of Cronbach's alpha and McDonald's ω levels, with a criterion value of >.07 for acceptable consistency [40]. Cronbach's alpha is a good measure of internal consistency, particularly with multidimensional scales (i.e. those that measure different latent constructs), whereas the McDonald's ω is better suited measuring the internal consistency of

unidimensional scales (i.e. those that measure the same latent construct; [41]). If items are unidimensional, Cronbach's alpha gives a reliable measure of internal consistency only once all items have equal covariance with the true score, which is seldom the case [41]. Since we are testing both one-factor and five-factor models, we decided to report both indicators of internal consistency. The criterion validity was estimated with Pearson product moment correlations between the EPOCH total score and subscale scores and the indicators of coping self-efficacy (i.e. CSE) [32] and mental health symptoms (i.e. DASS-21) [33].

Results

Preliminary analyses

The data included some missing values (altogether $< .01\%$), but an analysis of missing values with Little's missing completely at random (MCAR) test yielded a non-significant result, $\chi^2(5595) = 5614.25$, $p = 0.46$. Thus, the missing values were not related to any variables in our study. Full information maximum likelihood (FIML) was used to handle the missing data.

Construct validity of the EPOCH

The five-factor model showed acceptable model fit ($\chi^2(160) = 818.72$, $p < .001$; CFI = 0.917, TLI = 0.902, RMSEA = 0.070 [CI = 0.065, 0.075], SRMR = 0.044) and fit better than the 1-factor model [$\chi^2(170) = 2530.24$, $p < .001$; CFI = 0.703, TLI = 0.668, RMSEA = 0.128 CI [0.124, 0.133], SRMR = 0.091; $\Delta\chi^2(10) = 1711.52$, $p < .001$;) and second-order factor model ($\chi^2(165) = 871.78$, $p < .001$; CFI = 0.911, TLI = 0.898, RMSEA = 0.071 (CI = 0.067, 0.076), SRMR = 0.050; $\Delta\chi^2(5) = 53.06$, $p < .001$), even though the latter model's fit was also acceptable. The CFI and TLI were both above the desired cut-off of .9 (TLI was about .9 for the second-order model), the RMSEA was below the critical .08 threshold, and the SRMR was below .09 [37] for both the five-factor and the second-order model. Therefore, both total scale scores and subscale scores are used in analyses. All items had loadings of >.40 onto their respective factors and were significant at $p < .01$ in the five-factor model. Scalar invariance was supported for gender (see Table 1), indicating that the five-factor model is sufficient and that mean values are directly comparable across the genders. The five-factor solution of the EPOCH is presented in Fig 1.

Internal consistency

The total EPOCH scale had high internal consistency (Cronbach's $\alpha = 0.91$, McDonald's $\omega = 0.92$). The subscales likewise all had high or acceptable consistencies: *engagement* ($\alpha = 0.79$, McDonald's $\omega = 0.80$), *perseverance* ($\alpha = 0.76$, McDonald's $\omega = 0.77$), *optimism* ($\alpha = 0.83$, McDonald's $\omega = 0.84$), *connectedness* ($\alpha = 0.74$, McDonald's $\omega = 0.75$) and *happiness* ($\alpha = 0.88$, McDonald's $\omega = 0.89$).

Criterion validity

The intercorrelations were estimated with Pearson product moment correlation coefficients between the total and subscales of the EPOCH and positive and negative well-being indicators

Table 1. Comparing configural, metric and scalar invariance across gender.

Invariance	df	AIC	BIC	χ^2	$\Delta\chi^2$	p	CFI	RMSEA	ΔCFI	ΔRMSEA
Configural	320	40743.66	41406.50	986.22			.916	.070		
Metric	335	40747.75	41339.58	1020.31	34.09	.003	.914	.070	.002	.000
Scalar	350	40789.69	41307.50	1089.25	68.94	< .001	.907	.071	.007	.001

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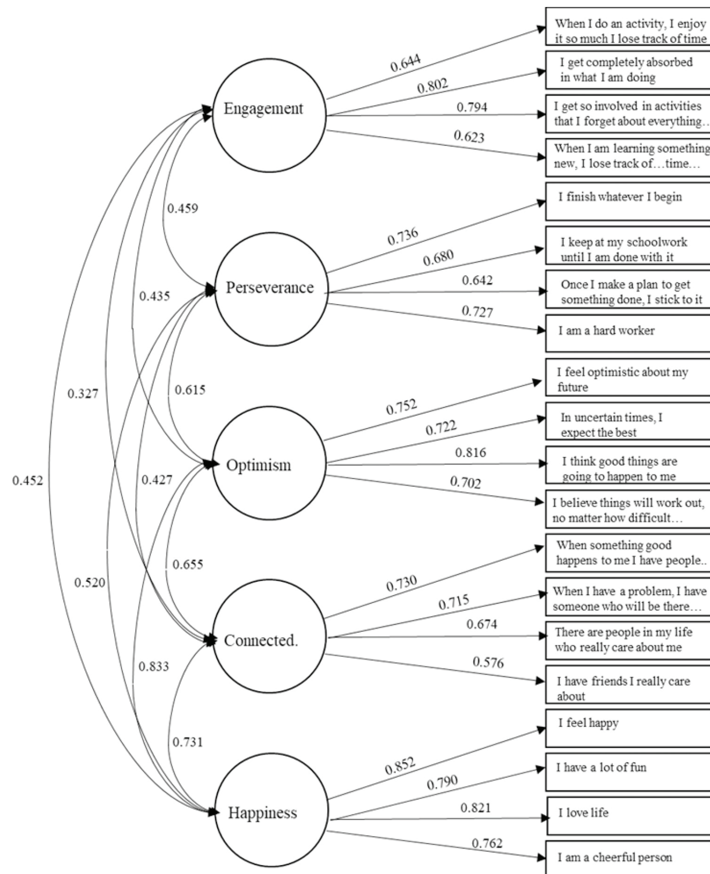

Fig 1. Confirmatory factor analysis of the EPOCH item loadings onto their subcomponents, showing the standardized factor loadings and latent correlations (some items are abbreviated).

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(CSE and DASS-21, respectively, see Table 2). Moreover, all item intercorrelations were estimated (see Table 3).

All intercorrelations were significant at $p < .001$ (see Table 4). As expected, the total EPOCH score had a strong positive correlation with the CSE ($r = 0.68$) and a strong negative correlation with the DASS-21 ($r = -0.56$). The engagement subscale showed only a moderate positive correlation with the CSE ($r = 0.32$) and a weak negative correlation with the DASS-21 ($r = -0.17$). Engagement showed weak negative correlations with all the DASS-21 subscales and weak positive correlations with all the CSE subscales (see Table 2). Perseverance had a moderate positive correlation with the CSE ($r = 0.46$) and a moderate negative correlation with the DASS-21 ($r = -0.34$), as expected. Perseverance likewise showed weak to moderate

Table 2. Descriptive statistics for the EPOCH subscales and intercorrelations between the EPOCH subscales and overall scale ($N = 846$).

	Engagement	Perseverance	Optimism	Connectedness	Happiness	Overall
E	—					.64
P	.37	—				.69
O	.37	.49	—			.84
C	.27	.34	.52	—		.71
H	.38	.43	.72	.61	—	.85
M (SD)	3.08 (.084)	3.74 (0.78)	3.65 (0.89)	4.41 (0.69)	3.69 (0.91)	3.72(0.62)

E = Engagement; P = Perseverance; O = Optimism; C = Connectedness; H = Happiness.
All correlations were significant at $p < .01$.

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negative correlations with the DASS-21 subscales, and moderate to strong positive correlations with the CSE subscales. Optimism, by contrast, had a strong positive correlation with the CSE ($r = 0.66$) and a strong negative correlation with the DASS-21 ($r = -0.56$). Optimism also had moderate to strong negative correlations with the DASS-21 subscales, and a strong positive

Table 3. EPOCH scale item intercorrelations and item descriptives ($N = 846$).

		EPOCH scale items																			
	M(SD)	**1.**	**2.**	**3.**	**4.**	**5.**	**6.**	**7.**	**8.**	**9.**	**10.**	**11.**	**12.**	**13.**	**14.**	**15.**	**16.**	**17.**	**18.**	**19.**	**20.**
1.	4.43(.92)																				
2.	3.93(.92)	.23																			
3.	3.74(1.14)	.37	.44																		
4.	3.62(1.02)	.41	.35	.57																	
5.	3.73(1.15)	.19	.15	.21	.21																
6.	3.69(.97)	.47	.36	.52	.72	.31															
7.	3.07(1.07)	.18	.29	.31	.30	.47	.40														
8.	3.55(1.20)	.38	.34	.57	.73	.26	.65	.36													
9.	3.24(1.22)	.14	.52	.31	.26	.14	.26	.26	.27												
10.	4.01(1.13)	.52	.26	.37	.50	.19	.49	.20	.48	.27											
11.	2.57(1.09)	.14	.17	.22	.19	.48	.30	.59	.24	.23	.16										
12.	2.95(.99)	.13	.23	.23	.20	.37	.27	.44	.26	.30	.17	.50									
13.	3.34(1.05)	.28	.33	.48	.49	.20	.48	.29	.52	.21	.33	.25	.30								
14.	4.65(.72)	.43	.20	.31	.39	.12	.36	.17	.40	.15	.53	.09*	.12	.31							
15.	3.97(.98)	.36	.42	.68	.58	.17	.54	.27	.64	.29	.43	.17	.22	.57	.44						
16.	4.55(.83)	.49	.19	.26	.29	.19	.38	.15	.29	.13	.32	.17	.14	.24	.37	.31					
17.	3.74(.92)	.22	.49	.31	.35	.17	.35	.27	.31	.36	.22	.21	.25	.30	.19	.36	.30				
18.	3.55(1.12)	.31	.32	.47	.40	.24	.44	.30	.50	.20	.33	.22	.27	.70	.30	.58	.29	.38			
19.	4.07(.93)	.16	.52	.34	.26	.17	.26	.30	.28	.50	.21	.18	.27	.21	.17	.36	.16	.44	.26		
20.	3.90(1.00)	.39	.30	.49	.67	.18	.61	.29	.66	.19	.42	.19	.19	.48	.39	.58	.36	.31	.47	.29	

1. = When something good happens to me, I have people who I like to share the good news with; 2. = I finish whatever I begin; 3. = I am optimistic about my future; 4. = I feel happy; 5. = When I do an activity, I enjoy it so much that I lose track of time; 6. = I have a lot of fun; 7. = I get completely absorbed in what I am doing; 8. = I love life; 9. = I keep at my schoolwork until I am done with it; 10. = When I have a problem, I have someone who will be there for me; 11. = I get so involved in activities that I forget about everything else; 12. = When I am learning something new, I lose track of how much time has passed; 13. = In uncertain times, I expect the best; 14. = There are people in my life who really care about me; 15. = I think good things are going to happen to me; 16. = I have friends that I really care about; 17. = Once I make a plan to get something done, I stick to it; 18. = I believe that things will work out, no matter how difficult they seem; 19. = I am a hard worker; 20. = I am a cheerful person.

* $< .05$. All other correlations are significant at $p < .01$.

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Table 4. Intercorrelations between the EPOCH subscales with well-being indicators (N = 842–846).

	EPOCH					
	Engagement	Perseverance	Optimism	Connectedness	Happiness	Overall
Well-being indicators:						
Coping self-efficacy, total	0.32	0.46	0.66	0.48	0.61	0.68
Problem-focused c.	0.28	0.51	0.55	0.33	0.43	0.56
Emotion-focused c.	0.25	0.28	0.54	0.28	0.51	0.50
Social support	0.24	0.30	0.53	0.63	0.58	0.61
DASS total	-0.17	-0.34	-0.56	-0.38	-0.63	-0.56
Depression	-0.22	-0.41	-0.59	-0.50	-0.70	-0.65
Anxiety	-0.10	-0.22	-0.41	-0.26	-0.44	-0.39
Stress	-0.12	-0.23	-0.44	-0.22	-0.46	-0.40

Coping SE = Coping self-efficacy; Problem-focused c = using problem-focused coping; Emotion-focused c = stopping unpleasant emotions and thoughts; Social support = getting support from friends and family.

Note: All the correlations with the W-B indicators were significant at $p < .001$, not indicated here.

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correlation with the CSE subscales. Connectedness showed moderate positive correlations with CSE (r = 0.48) and a moderate negative correlation with the DASS-21 (r = -0.38). Connectedness was also negatively correlated with the DASS-21 subscales and had moderate positive correlations with the CSE subscales, as expected. Happiness showed strong correlations with the CSE (r = 0.61) and DASS-21 (r = -0.63). Moreover, the correlations with the subscales of the DASS-21 were moderate to strong and negative; those with the CSE subscales were moderate to strong and positive.

Discussion and conclusion

In this study, we investigated the psychometric properties of the Swedish version of the EPOCH Measure of Adolescent Well-being among Swedish high school students (aged 16–21 years). Our results supported the scale's reliability and validity.

The five-factor solution of the origin EPOCH was supported by a CFA, having good overall model fit. In line with previous findings, the five-factor model fit the data better than did the one-factor model or the second-order factor model, even though the latter model also showed acceptable fit. Therefore, both the overall scale scores and subscale scores were used in analyses. Our results showed that the Swedish EPOCH has good internal consistency for overall scores and all five subscales. The particular strengths of the EPOCH are that 1) it is multidimensional in that it takes into account five different dimensions of well-being (engagement, perseverance, optimism, connectedness and happiness) rather than just one, and 2) it accommodates both the hedonic and eudaimonic views of well-being. Considering multiple dimensions of well-being [2,5] as well as both the hedonic and eudaimonic aspects [4–6] gives a more comprehensive picture of one's well-being compared to focusing on just one indicator or aspect.

The subscales also showed good criterion validity. As expected, all five EPOCH subscales had a moderate positive correlation with coping self-efficacy, with engagement showing the lowest correlation, and optimism and happiness showing the highest correlations. Zeng and Kern [31] also found that engagement showed the lowest correlation with other well-being measures. This may be due to the fact that engagement is related to flow, which is a state of complete absorption in an activity without a sense of positive or negative affect [28]. Perhaps feeling engaged is not as strongly related to affectivity as the other EPOCH subscales. Coping

self-efficacy is the belief that one is capable of coping in a challenging circumstance [32]; given that it is a positive self-efficacy belief, it makes sense that optimism and happiness had the strongest relations with it. It is also noteworthy that, as expected, the EPOCH connectedness subscale had a strong correlation with the CSE support from friends and family subscale.

Also as expected, negative correlations were found between the five EPOCH subscales and three indicators of mental health problems, namely depression, anxiety and stress. The weakest negative correlations were found with engagement, and the strongest negative correlations were found with happiness. This, again, replicated the results of Zeng and Kern [31].

The results also indicated scalar invariance across genders, indicating that the five-factor model is sufficient and that mean values are directly comparable across the genders, replicating the findings of Zeng and Kern [31].

Limitations

The criterion validity was limited because we used only one other positive well-being indicator (coping self-efficacy). We might have included more positive well-being indicators in this study to obtain greater nuance with the criterion validity. However, since the data were based on a larger project, only a couple of comparison indicators were collected. Another limitation with the criterion validity is that all scales were measured in the same way using self-report. Therefore, there is a chance that the criterion validity correlations are inflated due to common method variance [42]. Future validation studies should attempt to use non-self-report measures as well. Furthermore, the data was collected during a global pandemic, which might have affected how students responded to the well-being items. However, we did not consider this a problem for the scale validation, since the levels of well-being at the time of measurement should not interfere with assessment of scale validity or reliability.

Conclusion

This study indicated that the Swedish version of the EPOCH Measure of Adolescent Well-being had good psychometric properties: the CFA indicated good model fit and the scale (both the total scale and the subscales) had high internal consistency and criterion validity. Therefore, this study provides support for the use of this multidimensional measurement of positive psychological functioning among Swedish-speaking adolescent samples.

Supporting information

S1 Appendix. The Swedish version of the EPOCH measure of adolescent well-being. (DOCX)

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Article IV

Mental health profiles among high school students: Relationships to environmental sensitivity and coping self-efficacy

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Abstract

Dual-factor models of mental health consider both positive and negative mental health indicators when classifying mental health profiles. The aim of this study was to investigate Swedish high school students' mental health profiles within the dual-factor framework and the gender distributions of these profiles. Furthermore, we investigated how these profiles were related to environmental sensitivity and coping self-efficacy. Because the data were collected during the COVID-19 pandemic, a secondary aim was to see whether perceived pandemic distress was associated with these mental health profiles and other studied variables. In this cross-sectional study, we used latent profile analysis to identify mental health profiles among high school students ($N = 846$, $M_{age} = 18$, $SD_{age} = 0.85$). Five profiles – complete mental health, moderate mental health, symptomatic but managing, vulnerable and troubled – were found. The complete mental health profile had significantly more boys, whereas the symptomatic but managing and troubled profiles had significantly more girls. Environmental sensitivity had a complex relationship with mental health – aesthetic sensitivity was highest in the complete mental health profile as well as the symptomatic but managing and troubled profiles. Furthermore, we found that coping self-efficacy was positively related to mental health, being higher for the complete mental health profile. Although 51.8% of students reported increased stress and 55.2% reported increased worry related to the pandemic, there were no differences between the profiles in perceived pandemic distress. Pandemic distress was weakly correlated with sensitivity, coping self-efficacy and gender

Keywords: adolescent, mental health profiles, dual-factor model, environmental sensitivity, well-being, pandemic

Mental health profiles among high school students: Relationships to environmental sensitivity and coping self-efficacy

The majority of adolescents fare well in mental health and well-being (Suldo, 2016). However, for a significant minority, mental health is a worrisome issue and seems to be on the decline. For example, depression and anxiety peak during adolescence (World Health Organization, 2020), as does self-harm (Lim et al., 2019). Moreover, suicide is the number one cause of death among 10- to 19-year-olds in low and middle-income countries, and the second leading cause in high-income countries in Europe (WHO, 2018). In Sweden, while the majority of students reported a stably high level of life satisfaction over the past 20 years (Public Health Agency of Sweden, 2021), student mental health has in general been declining over the past few decades; there is also a high prevalence of depression and anxiety among adolescents (Schierenbeck & Karlsson, 2018). The rates are particularly high among girls (Schierenbeck & Karlsson, 2018).

However, underlying these figures may be a more complex picture of mental health. That is, it is possible that adolescents who report elevated levels of well-being simultaneously experience high levels of stress and anxiety. Studying positive and negative mental health indicators together as an indivisible whole in the form of mental health profiles would enable us to obtain a more nuanced picture of how mental health and well-being manifest among young people in Sweden. The integrative dual-factor model of mental health (Greenspoon & Saklofske, 2001) considers mental health symptoms such as depression and anxiety as well as positive mental health indicators such as sense of life satisfaction and positive emotionality (Greenspoon & Saklofske, 2001; Suldo & Shaffer, 2008).

In this study, we draw on this dual-factor model to identify mental health profiles among Swedish high school students. We aim to use different measures for mental health (approaching well-being as a multidimensional concept including hedonic and eudaimonic aspects, i.e. The EPOCH measure of adolescent well-being; Kern et al., 2016; and mental health problems with the DAS scale; Lovibond & Lovibond, 1995; measuring internalizing symptoms, both described in more detail later) than those commonly used in dual-factor mental health profile literature, looking at whether the profiles will be replicated when mental health is measured differently. Additionally, we will use latent profile analysis to delineate the profiles as recommended by Moore et al. (2019) instead of using cut-off scores as is often done in dual-factor models. We then examine how these profiles differ in terms of environmental sensitivity, coping self-efficacy and gender distribution. This is the first study to look at the combination of dual-factor mental health profiles together with environmental sensitivity, a combination of aspects we deem important for further exploration, considering the important role sensitivity plays in mental health (see Greven et al., 2019; Pluess et al., 2018; Boyce, 2019). Since data were collected

during the COVID-19 pandemic, we also investigate how individuals with these different profiles experienced pandemic distress and whether pandemic distress is related to sensitivity and coping-self-efficacy, to see if these might buffer the distress of the pandemic. Together, these aspects make this study a novel contribution to the dual-factor mental health profile literature.

Mental health profiles

There are several approaches to classifying mental health profiles based on the theory that mental health is more than the absence of psychopathology – it is also the presence of well-being indicators (Seligman & Csikszentmihalyi, 2000). The official definition by the World Health Organization indicates this as well: ‘‘Mental health is defined as a state of well-being in which every individual realizes his or her own potential, can cope with the normal stresses of life, can work productively and fruitfully, and is able to contribute to her or his community’’ (WHO, 2020). Therefore, looking at well-being indicators alongside mental health symptoms is important.

One such approach to profiling is based on the dual-factor theory of mental health, which considers mental health problems and well-being as separate dimensions able to co-occur in complex ways. For instance, high well-being may co-occur with high psychopathology, or low well-being may co-occur with low psychopathology (Greenspoon & Saklofske, 2001). Using this dual-factor theory, Suldo and Schaffer (2008) found four different mental health profiles: 1) complete mental health (high in well-being and low in psychopathology), 2) vulnerable (low on well-being, low on psychopathology), 3) symptomatic but content (high on well-being, high on psychopathology), and 4) troubled (low on well-being, high on psychopathology). These profiles had clearly different psychosocial outcomes: complete mental health exhibited the best psychosocial functioning, including the highest school engagement, higher school grades, better interpersonal relationships, lowest loneliness, and lower occurrence of illness (Suldo, 2016; Suldo & Schaffer, 2008). Students with the symptomatic but content profile exhibited elevated levels of mental health problems, but also simultaneously show elevated levels of subjective well-being, having positive social relationships, high engagement in school and elevated levels of self-worth (Suldo, 2016). The vulnerable profile students did not have elevated levels of mental health problems, but neither did they have high levels of well-being. These students scored lower on academic success than did their peers with complete mental health and had lower-quality social relationships and lower self-worth (Suldo, 2016). Suldo (2016) suggests that these students may be at risk of developing full-blown mental health problems unless they receive targeted mental health interventions; however, such students may not receive such interventions because they may be exhibiting clear mental health problems (Suldo & Schaffer, 2008). Troubled students had high levels of mental health problems and low well-being, making them the least well-adjusted of all profiles (Suldo, 2016)

with elevated distress, lower quality social relationships, lower self-worth and lower school success (Suldo & Schaffer, 2008; Suldo, 2016).

Across five studies exploring mental health profiles using a dual-factor model (Antaramian, Huebner, Hills & Valois, 2010; Eklund, Dowdy, Jones & Furlong, 2011; Greenspoon & Saklofske, 2001; Renshaw & Cohen, 2014; Suldo & Schaffer, 2008; Suldo, Thalji-Raitano, Kiefer & Ferron, 2016), the complete mental health profile was found in 65% of students on average, while 12%, 10%, and 13% demonstrated the vulnerable, symptomatic but content and troubled profiles, respectively (Suldo, 2016). Importantly, however, these profile studies did not look at the gender distribution within the different profiles. This is an important topic to explore, particularly given that it has been found that women and girls exhibit higher levels of psychopathology globally: in a study comparing 73 countries, girls had worse mental health on average than did boys (Campbell, Bann & Patalay, 2021). Similar gender differences in favour of boys were also found in Sweden (Schierenbeck & Karlsson, 2018; Prowse et al. 2021; Public Health Agency of Sweden, 2018). These findings suggest that women and girls may commonly exhibit more compromised mental health profiles as compared to men and boys.

One criticism of dual-factor profiling studies is that they tend to use cut-off scores to classify profiles. Moore, Dowdy, Nylund-Gibson, and Furlong (2019) criticised the use of cut-off profiling, noting that using arbitrary cut-points will always result in a four-profile solution depending on the cut-point criteria, and that the differences between these profiles may be meaningless in reality. Moore et al. (2019) opted instead for mental health profiles derived using latent profile analysis (LPA), a person-centred approach wherein profiles are derived through identifying patterns in item responses. LPA is similar to a factor analysis in its aim to discover latent constructs from item responses, with the distinction being that LPA uses individuals' responses (instead of items and constructs) to identify groups (Ferguson, Moore, & Hull, 2020). The LPA method is premised on the notions that individuals differ and that these differences are meaningful – therefore, it considers individuals as individuals rather than an aggregate group. More specifically, LPA looks into patterns of responses across individuals and how these co-occur in groups, which can in turn be classified as profiles (Ferguson et al., 2020). Moore et al. (2019) looked at a sample of students ranging from Grades 9 through 12 over four academic years and found that the optimal number of profiles ranged from 3 to 5. However, they also landed on four profiles as their optimal solution: complete mental health, moderate mental health, symptomatic but content and troubled. In contrast to Suldo and Shaffer's (2008) vulnerable profile, they found a moderate mental health profile.

In the present study, we investigated dual-factor profiles using LPA as recommended by Moore et al. (2019). We expect to find at least four mental health profiles like those found by Moore et al. (2019), given that we also use the same analysis method. However, this expectation is somewhat unsure given that we use different mental health measures than those used by Moore et al. (2019). To further

distinguish these profiles, we will examine how the profiles differ in terms of environmental sensitivity and coping self-efficacy, two variables that appear to be of great importance for mental health in the face of daily life distress.

Environmental sensitivity

High sensitivity may be related to both vulnerability to mental health conditions (Boyce, 2019) and well-being. This phenomenon is called differential susceptibility, with highly sensitive individuals being most likely to suffer from mental health problems as well as most likely to thrive (see Boyce, 2019; Belsky & Pluess, 2009). We therefore considered it important to look at whether environmental sensitivity is differentially related to dual-factor mental health profiles.

Individuals vary substantially in environmental sensitivity (Greven et al., 2019). High sensitivity manifests as a stronger nervous system response and higher cortisol levels in response to mild- and high-level stressors (Boyce, 2019). Therefore, sensitivity has been considered a risk factor in the diathesis-stress model, suggesting that highly sensitive individuals are particularly vulnerable to stressors and, as a result, developing various social- and emotional problems (Belsky & Pluess, 2009; Pluess & Belsky, 2013). High environmental sensitivity, for instance, is highly positively correlated with neuroticism and negative emotionality, as well as with depression and anxiety (Greven et al., 2019; Lionetti et al., 2019). However, high sensitivity also appears to work in the opposite direction – highly sensitive individuals have so-called 'vantage sensitivity' (Pluess & Belsky, 2013), meaning they can benefit much more from positive social environments. According to the differential susceptibility framework by Belsky and Pluess (2009), highly sensitive individuals are sensitive both to adverse effects and to positive ones. Thus, in adverse situations they may develop problems (diathesis-stress), but in positive social environments they may thrive (vantage sensitivity; Belsky & Pluess, 2009; Pluess & Belsky, 2013). It is therefore likely that highly sensitive individuals have experienced particularly strong negative effects from the COVID-19 pandemic.

However, investigations of environmental sensitivity require nuance, given its rather different sub-components. Three main sub-components for sensitivity have been suggested (Aron and Aron, 1997; Pluess et al., 2018): low sensory threshold (i.e., sensitivity to subtle stimuli), ease of excitation (getting overwhelmed easily by stimuli, such as getting agitated when hungry) and aesthetic sensitivity (high response to aesthetically pleasing and positive stimuli; Greven et al., 2019). These subcomponents of sensitivity have been associated in different ways with mental health outcomes, such that while low sensory threshold and ease of excitation are commonly related to higher mental health symptoms and lower well-being, aesthetic sensitivity shows the opposite pattern of associations (e.g., Pluess et al., 2018). Based on these results, we expect that compromised mental health profiles (i.e. profiles with low well-being and high psychopathology) will tend to have higher

levels of ease of excitation and low sensory threshold, whereas the positive mental health profiles will tend to have higher aesthetic sensitivity.

Coping self-efficacy

Coping self-efficacy, referring to people's belief that they are able to use adaptive coping strategies to deal with stressful situations, is a positive trait that may help individuals thrive and maintain mental health while facing distress (Chesney, Neilands, Chambers, Taylor, & Folkman, 2006). More generally, self-efficacy is the belief in one's ability to exert control over one's own behaviour to attain desirable outcomes (e.g., Chesney et al., 2006). Coping, on the other hand, is one's ability to use various cognitive and emotional strategies to manage distress in taxing situations (Lazarus & Folkman, 1984).

The coping self-efficacy construct enables researchers to measure 'secondary appraisal' (Chesney et al., 2006), according to the theory of stress and coping by Lazarus and Folkman (1984). According to this theory, people appraise stress in two stages: 1) the primary appraisal involves estimation of whether the situation is threatening or safe, while 2) the secondary appraisal is the cognitive and behavioural estimation of what one can do to manage the stress – that is, how one engages with coping. According to Lazarus and Folkman (1984), coping strategies can be problem-focused (how one can change the situation); emotion-focused (how to emotionally orient oneself towards the situation in an adaptive way: Lazarus & Folkman, 1984; Chesney et al., 2006); or a mixture of the two with a social emphasis, called seeking social support (Chesney et al., 2006). Problems arise when maladaptive coping strategies are employed (such as using problem-focused coping in uncontrollable situations or emotion-focused coping in controllable situations). When there is a good fit between the type of stressful situation (controllable vs. uncontrollable) and the coping style, that coping is said to be adaptive (Park, Folkman, & Bostrom, 2001). Coping self-efficacy was chosen for the study since it reflects how students feel about their capacities to cope with difficult situations, which may be particularly relevant during the pandemic.

Mental health during the pandemic

Because this project began during the COVID-19 pandemic, we also examined whether students with different mental health profiles differed in their perceptions of pandemic distress. The COVID-19 pandemic coincided with a marked increase in mental health problems worldwide (Rajkumar, 2020). In Sweden, McCracken et al. (2020) found significant levels of depression (30%), anxiety (24.2%) and insomnia (38%) among the general population (n = 1212) during the pandemic (although, because they used cross-sectional data, there is no guarantee that these were *caused* by the pandemic). Moreover, Prowse et al. (2021) found that female

college (age range 18–29) students were negatively affected during the pandemic with higher levels of mental health problems, stress and social isolation and lower academic success. Even before the pandemic, in 2016, anxiety and worry in 16- to 29-year-olds were higher among girls (54%) than among boys (33%; Public Health Agency of Sweden, 2018).

Current study

The current study aims to identify mental health profiles according to the dual-factor model (e.g. Suldo & Schaffer, 2008; Moore et al., 2019) among Swedish high school students and examine how these profiles differ in terms of environmental sensitivity, coping self-efficacy, and gender distribution. Since the data were collected during the COVID-19 pandemic, our secondary aim is to examine how individuals in the different profiles experienced the pandemic distress, as well as examine how pandemic distress relates to environmental sensitivity, coping self-efficacy, and gender.

The mental health profiles were based on five aspects of well-being (as described below) and three aspects of mental health problems (depression, anxiety, and stress). Instead of measuring subjective well-being (as many dual-factor studies do, e.g. Suldo & Schaffer, 2008), we used a more comprehensive measure of well-being called EPOCH (Kern et al., 2016), which is based on the PERMA theory (Seligman, 2011). According to the PERMA theory, well-being for adolescents is made up of the dimensions of engagement, persistence, relationships, optimism, connectedness, and happiness; it thus combines the hedonic (subjective well-being, i.e. happiness) and eudaimonic (other elements of good psychological functioning – i.e. connectedness and persistence) aspects of well-being (Kern et al., 2016). For this reason, we consider the PERMA-based EPOCH to offer a more complete measure of well-being among students. For psychopathological symptoms, we used depression, anxiety and stress scale (Lovibond & Lovibond, 1995), which we considered highly relevant vulnerability factors for high school students.

Using the LPA method, we expect to identify four profiles – *complete mental health*, *moderate mental health*, *symptomatic but content* and *troubled* – similar to the dual-factor model as explicated by Moore et al. (2019). However, these expectations are unsure given that we measure mental health with different measures from Moore et al. (2019). Based on aforementioned research that women and girls have a greater tendency to exhibit mental health symptoms (Campbell et al. 2021), we expect that more girls would exhibit the compromised mental health profiles and fewer the optimal mental health profile.

We further expect that individuals with the compromised mental health profiles will report higher levels of ease of excitation and low sensory threshold – the two sensitivity indicators related to diverse mental health problems (e.g., Greven et al., 2019). In contrast, individuals with the optimal mental health profile will report higher levels of aesthetic sensitivity, the sensitivity indicator coupled with vantage

sensitivity (i.e. sensitivity to positive environments: Pluess et al., 2018). We also expect that participants high in coping self-efficacy will exhibit the optimal mental health profile.

Furthermore, we expect to pandemic distress levels will be high overall, though they will be lower in the complete mental health profile because of their greater coping self-efficacy. We will further explore whether this distress is related to sensitivity, coping self-efficacy, and gender.

Methods

Participants

Three high schools in three cities in Sweden were contacted to ask if students would be willing to participate in a study on their well-being. The schools were all high-profile municipality schools with roughly equal sizes. Altogether 852 students responded to the survey, of which 6 were excluded because they left the majority of questions unanswered (n = 2) or responded incorrectly to more than 2 control questions (e.g. 'This is a control question, please respond 'totally agree'') placed in the survey to control for participant attentiveness (n = 4), leaving a sample size of 846 (M_{age} = 18, SD_{age} = 0.85). Most participants identified themselves as 'girl/woman' (n = 555, 65.6%), 286 (33.8%) identified themselves as 'boy/man', and 5 (0.6%) reported 'other'. Most students (n = 722, 85.3%) were born in Sweden, with one or both their parents being born in Sweden (n = 575, 68%).

Since data analysed in the article were collected during the COVID-19 pandemic, we compared the means on stress, anxiety and depression of the sample with another sample of students on the variables collected in 2016 (we refer to Sample 2016 in the article) in order to test whether the students reported lower/higher or similar internalized mental health as compared to their counterparts in the beginning of the main wave of the Covid-19. Sample 2016 contained 190 students (M_{age} = 16.7, SD = 0.84; 66.7% identified themselves as girls/women) that at the time of data collection were students at one of the three municipality schools in which we collected data for this study.

Measures

EPOCH Measure of Adolescent Wellbeing

The EPOCH (Kern et al., 2016) measures well-being in line with the PERMA theory, specifically adjusted to an adolescent audience. The scale comprises 20 questions in 5 subscales: engagement (e.g. *'When I do an activity, I enjoy it so much I lose track of time'*), perseverance (e.g. *'I finish whatever I begin'*), optimism (e.g.

'I am optimistic about my future'), connectedness (e.g. *'When something good happens to me, I have people who I like to share the good news with'*) and happiness (e.g., *'I feel happy'*). Answers are made on a 5-point Likert-scale ranging from 1(*'Almost always'* or *'Not at all like me'*) to 5 (*'Almost never'* or '*Very much like me'*). Scores are computed as the average of the 20 items making up the scale (for the total score) and the four items in each subscale (for subscale scores). Previous studies have shown the scale to have good validity and reliability (Maurer et al., 2021; Kern et al., 2016; Zeng & Kern, 2019). In the current study, the internal consistency was likewise high (Cronbach's α = .90). The internal consistencies of the subscales were as follows: engagement (α = .79), perseverance (α = .76), optimism (α = .83), connectedness (α = .74) and happiness (α = .88).

Depression, Anxiety and Stress Scale (DASS-21)

The Depression, Anxiety and Stress Scale (DASS-21) (Lovibond & Lovibond, 1995) is a 21-item scale measuring depression (e.g. 'I couldn't seem to experience any positive feelings at all'), anxiety (e.g. 'I felt I was close to panic') and stress (e.g. 'I felt that I was using a lot of nervous energy'). Answers are made on a 4-point Likert-scale ranging from 0 ('Did not apply to me at all') to 3 ('Applied to me very much, or most of the time'). The sum scores are computed by adding up the scores for the items in each subscale or the total scale and multiplying them by 2. Sum scores for the total DASS-21 range from 0 to 126, while those for the subscales range from 0 to 42. The internal consistency of the scale in this study was high (Cronbach's α = .91), while that for the subscales was satisfactory to high: depression (α = .89), anxiety (α = .73) and stress (α = .81). The internal consistencies of the scale (α = .93) and the subscales: depression (α = .91), anxiety (α = 83) and stress (α = .89) were high in Sample 2016.

Although the DASS-21 has no direct implications for the allocation of participants to discrete diagnostic categories, it does have recommended cut-off scores for conventional severity labels that may be of importance for comparing different mental health profiles in this study. The following cut-off scores are suggested: for severe levels of distress, 21–27 for depression, 15–19 for anxiety and 26–33 for stress; for extremely severe levels of distress, 28–42 for depression, 20–42 for anxiety and 34–42 for stress (Lovibond & Lovibond, 1995).

Highly Sensitive Child Scale

The Highly Sensitive Child Scale (Pluess et al., 2018) is related to the Highly Sensitive Person Scale developed by Aron and Aron (1997), but adapted to a young audience. This 12-item questionnaire consists of three subscales: ease of excitation (e.g. 'I find it unpleasant to have a lot going on at once'), aesthetic sensitivity (e.g. 'Some music can make me really happy'), and low sensory threshold (e.g. 'Loud noises make me feel uncomfortable'). Answers are made on a 7-point Likert-scale ranging from 1 ('Not at all') to 7 ('Extremely'). Scores are computed as the average of the 12 (for the total scale) and the five, four and three items of the ease of

excitation, aesthetic sensitivity, and low sensory thresholds subscales, respectively. The reliability of the scale in this study was satisfactory (Cronbach's α = .74), while the subscales had rather low to acceptable reliability: ease of excitation (α = .77), aesthetic sensitivity (α = .57) and low sensory threshold (α = .71).

Coping Self-Efficacy Scale

The Coping Self-Efficacy Scale (CSE; Chesney et al., 2006) comprises 13 items rated on an 11-point Likert-scale ranging from 0 ('Cannot do at all') to 10 ('Certain can do'). The scale comprises three subscales: use problem-focused coping (e.g. 'Break an upsetting problem down into smaller parts'), stop unpleasant emotions and thoughts (e.g. 'Make unpleasant thoughts go away') and get support from friends and family (e.g. 'Get friends to help you with the things you need'). Scores are computed as the average of the 13 (for the total scale) and six, four and three items for the problem-focused, emotion-focused and getting social support coping subscales, respectively. In this study, the reliability of the scale was high (Cronbach's α = .89). The subscales had likewise high reliabilities: problem-focused coping (α = 0.85), emotion-focused coping (α = 0.88), and getting social support (α = 0.78).

Distress during COVID-19

We included four questions about the way students were dealing with the pandemic. The questions dealt with worry and stress (e.g. *'How worried are you right now compared to how you are generally?'*, *'How stressed are you right now as compared to how you normally are?')*, physical health during the pandemic (e.g. *'How is your physical health status (e.g. do you have headache or something else) right now compared to what it usually is?')*, and how much one's well-being was affected by the pandemic (e.g. *'To what extent is your health (worry, stress, physical health) right now related to the virus epidemic?').* Answer options ranged on a 5-point Likert scale from 1 (*'Very little/small extent')* to (*'Very much/large extent')*. Scores are computed as the average of the four items. The internal consistency of this distress scale was satisfactory (Cronbach's α = .72).

Procedure

An online questionnaire and study advertisement was distributed via the schools' website to students in May 2020. The purpose and procedure of the study were explained in the online survey system, along with assurances of their anonymity and confidentiality and an informed consent form. The questionnaire contained a battery of surveys on well-being, mental health, and personality (sensitivity), all of which were validated and used before on different samples.

Although the survey was conducted during the first months of the COVID-19 pandemic, we decided to phrase questions on mental health and well-being,

environmental sensitivity and coping self-efficacy as indicators of functioning before the pandemic. This was done by stressing that the participants should focus on for each new page: “the first part of the questionnaire concerns how you GENERALLY feel (not during the Corona-epidemic)”. We intended that this would provide us with a picture of the students’ general mental health prior to the global crisis, which we could then compare with levels of pandemic distress for each profile. Pandemic distress levels were indicated with the following language: “in the second part, we’re asking about how you feel right NOW (compared with how you described yourself generally in the first part of the questionnaire)?”. A group of students (n = 42) were asked to pilot the survey before general data collection and asked to comment on the comprehensibility of the survey items; a generally high level of comprehensibility was reported by these students. We estimated that completing the questionnaire would take approximately 15 minutes.

Ethics statement

An ethical approval for this study was obtained from The Swedish Ethical Review Authority (2019-06552). All participants provided an informed consent to taking part in the study, indicating that they understood the study to be of voluntary nature, that they had the right to withdraw, and that their data would be kept confidential. According to the Swedish ethical guidelines, children above the age of 15 are able to provide their own informed consent without parental informed consent.

Statistical procedures – preliminary analyses

Preliminary data checks were conducted on SPSS Statistics 25.0 using descriptive statistics, *t*-tests, and Pearson product moment correlations. The assumption of linearity and outliers were checked; no major violations were found. We did fine some minor violations of the assumption of homogeneity of variances, so a correction was used in the analyses. An inspection of the histograms revealed no clear deviations from normality. The scales showed negative skewness, which is common in scales measuring well-being, apart from the DASS, which showed a positive skew. However, the skewness did not exceed the commonly used threshold of ±1 (Hair et al., 1998), save for depression (1.56), anxiety (1.57) and connectedness (-1.48).

The dataset had some missing values. However, no item exceeded 1.1% of missingness, and the amount of missing data found in the whole dataset was low (< 1%). Using Little’s MCAR test, a non-significant result was found, χ^2 (5595) = 5614.25, p = 0.46, indicating that the missing values were not related to the constructs in our study. Therefore, missing values were replaced using the expectation-maximization technique (e.g., Tabachnick & Fidell, 2007).

A latent profile analysis was performed to empirically identify dual-factor mental health profiles. The model fit was determined using the Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), and sample-size adjusted BIC (SABIC). Lower values for AIC and BIC aid in model selection by indicating the preferred model (e.g., Ferguson et al., 2019). Entropy values can range from 0 to 1, with higher values indicating lower entropy (i.e. lower uncertainty in the model) and therefore a better fit (Ferguson et al., 2020). A value of .80 or above indicates minimal uncertainty in model classification (Ferguson et al., 2020; Tein, Coxe, & Cham, 2013). All models were estimated using Mplus version 8 (Muthén & Muthén, 1998–2017) using many random starts (ranging from 500 100 up to 2,000 500 for models with more classes) to ensure the solution was a global, rather than a local, one.

Results

Preliminary analysis

In order to test whether the students in the same school back in 2016 reported lower/higher or similar internalized mental health as compared to their counterparts in the beginning of the main wave of Covid-19 (i.e. to check for whether the retrospective reporting was 'valid'), we compared the analytical sample of the study to Sample 2016 on the internalized mental problems measured with the DASS. Only the DASS, but not the EPOCH, in addition to other measures was used in data collection in 2016. Significant differences, though with small effect sizes, were obtained among the two samples on stress and depression with the students in the Sample 2016 reporting higher levels of stress, and depression compared to the students in our analytical sample (see Table S1 in the supplementary material). Since students from the same high-profile municipality school participated in data collections in both 2016 and 2020, we compared the Sample 2016 to the Subsample 2020 (i.e., only those from the same municipality school as for Sample 2016) on the DASS subscales. No significant differences were found on stress and anxiety, while mean levels of depression was significantly higher among students in 2016 compared to the students in 2020 (see Table S2 for details). It might indicate that students in 2020 may have overestimated their level of functioning prior to the pandemic somewhat. Further, although students in Sample 2016 were on average younger compared to their counterparts in Sample 2020, the correlations between age and the three mental health indicators were very low (ranged from -0.06 for anxiety to -0.1 for stress).

Main analysis: Descriptive Statistics and Gender Comparison

Table 1 shows the means and standard deviations for the total sample and includes a gender comparison. For most of the variables, gender differences were significant with generally moderate effect sizes.

Table 2 presents the intercorrelations of the mental health and well-being indicators and distress during COVID-19 with the sensitivity and coping self-efficacy subscales.

Table 1. ***Means and Standard Deviations of Measures of Well-being, Mental Health, Sensitivity, Coping Self-efficacy and Distress During COVID-19 for Girls (n = 555) and Boys (n = 286).***

	All M (SD)	**Girls** M (SD)	**Boys** M (SD)	**t**	***p***	***Cohen's d***
EPOCH	3.72 (0.62)	3.68 (0.62)	3.78 (0.61)	-2.24	.025	-0.16
DASS	28.83 (21.20)	33.03 (22.59)	20.50 (15.14)	9.55*	<.001	0.62
Sensitivity	4.64 (0.81)	4.84 (0.76)	4.24 (0.75)	10.76	<.001	0.78
EOE	4.47 (1.21)	4.69 (1.15)	4.04 (1.20)	7.67	<.001	0.56
LST	3.49 (1.40)	3.71 (1.39)	3.02 (1.31)	6.96	<.001	0.51
AES	5.71 (0.88)	5.86 (0.83)	5.42 (0.90)	7.08	<.001	0.52
Coping SE	6.99 (1.80)	6.74 (1.78)	7.49 (1.73)	-5.81	<.001	-0.42
PFC	7.47 (1.87)	7.26 (1.90)	7.91 (1.71)	-5.09*	<.001	-0.36
SUET	5.89 (2.51)	5.42 (2.46)	6.80 (2.37)	-7.80	<.001	-0.57
SFF	7.51 (2.50)	7.49 (2.46)	7.57 (2.55)	-0.42	.67	-0.03
Distress during COVID-19	3.27 (0.72)	3.40 (0.72)	3.02 (0.64)	7.85*	<.001	0.55

Note. *The result is based on a correction for the lack of homogeneity of variance.

EPOCH = EPOCH scale of adolescent well-being; DASS = Depression, Anxiety and Stress Scale; EOE = Ease of excitation; LST = low sensory threshold; AES = aesthetic sensitivity; Coping SE = coping self-efficacy; PFC = problem-focused coping; SUET = stopping unpleasant emotions and thoughts; SFF = support from friends and family.

Table 2. ***Intercorrelations of the Well-being and Mental Health Indicators and Distress During COVID-19 with Sensitivity and Coping Self-efficacy Subscales***

Indicator	**E**	**P**	**O**	**C**	**H**	**D**	**A**	**S**	**DDC-19**
Sensitivity	**.05(ns)**	**-.09**	**-.23**	**-.04(ns)**	**-.17**	**.22**	**.34**	**.40**	**.26**
EOE	-.06(ns)	-.24	-.38	-.14	-.29	.33	.39	.46	.26
LST	0.00(ns)	-.03(ns)	-.15	-.10	-.15	.13	.18	.22	.12
AES	.23	.19	.20	.25	.23	-.12	.06(ns)	.06(ns)	.11
Coping SE	**.32**	**.46**	**.66**	**.48**	**.61**	**-.54**	**-.39**	**-.49**	**-.13**
PFC	.37	.51	.54	.33	.43	-.40	-.29	-.37	-.13
SUET	.24	.28	.54	.28	.51	-.46	-.40	-.50	-.16
SFF	.24	.30	.53	.63	.58	-.45	-.25	-.31	-.01(ns)

Note. E = engagement; P = perseverance; O = optimism; C = connectedness; H = happiness; D = depression; A = anxiety; S = stress; EOE = ease of excitation; LST = low sensory threshold; AES = aesthetic sensitivity; PFC = problem-focused coping, SUET = stop unpleasant emptions and thoughts; SFF = support from friends and family; DDC-19 = distress during COVID-19 scale.

All correlations are significant at $p < .01$ level, unless indicated as non-significant (ns).

Latent Profile Analysis

Before specifying the mental health profiles, the correlations and descriptive statistics (see Table 3) were examined for the indicators used in the LPA.

Table 3. ***Intercorrelations and Descriptive Statistics for the Indicators Used in the LPA***

Indicator	1	2	3	4	5	6	7	M (SD)
EPOCH								
Engagement								3.08 (0.84)
Perseverance	.37							3.74 (0.78)
Optimism	.37	.49						3.65 (0.89)
Connectedness	.27	.34	.52					4.40 (0.69)
Happiness	.38	.43	.72	.61				3.69 (0.91)
DASS								
Depression	-.22	-.41	-.59	-.50	-.70			7.63 (8.96)
Anxiety	-.10	-.22	-.41	-.26	-.44	.63		7.91 (7.15)
Stress	-.12	-.23	-.44	-.22	-.46	.61	.64	13.28 (8.37)

Note. All correlations are significant at $p < .01$.

An LPA was conducted to specify the mental health profiles in the data. We began class enumeration with a one-class solution before exploring additional models with more latent classes. Table 4 shows the fit indices of each LPA model. Fit indices support a five-class solution as the optimal LPA model – it showed an improvement over a four-class solution, but no improvement over a six-class solution. While some of the classes in the five-class solution were small (4% and 5%), they were considered meaningful in showing the nuances of adolescent mental health.

Table 4. ***LPA Model Fit Summary (8 variables)***

Model	Log likelihood	AIC	BIC	SABIC	Entropy	LMR p-value	BLRT p-value	Probabilities
1	-7351.58	14735.17	14811.02	14760.21	1.00			1.00
2	-6330.66	12711.33	12829.84	12750.45	0.92	<0.001	<0.001	0.77 0.23
3	-6004.39	12076.77	12237.95	12129.98	0.87	0.020	<0.001	0.32, 0.56, 0.12
4	-5872.16	11830.31	12034.16	11897.60	0.84	0.264	<0.001	0.13, 0.43, 0.37, 0.07
5	**-5774.72**	**11653.44**	**11899.95**	**11734.81**	**0.87**	**0.005**	**<0.001**	**0.04, 0.37, 0.10, 0.05, 0.43**
6	-5703.02	11528.05	11817.22	11623.50	0.85	0.255	<0.001	0.04, 0.10, 0.40, 0.34, 0.08, 0.04

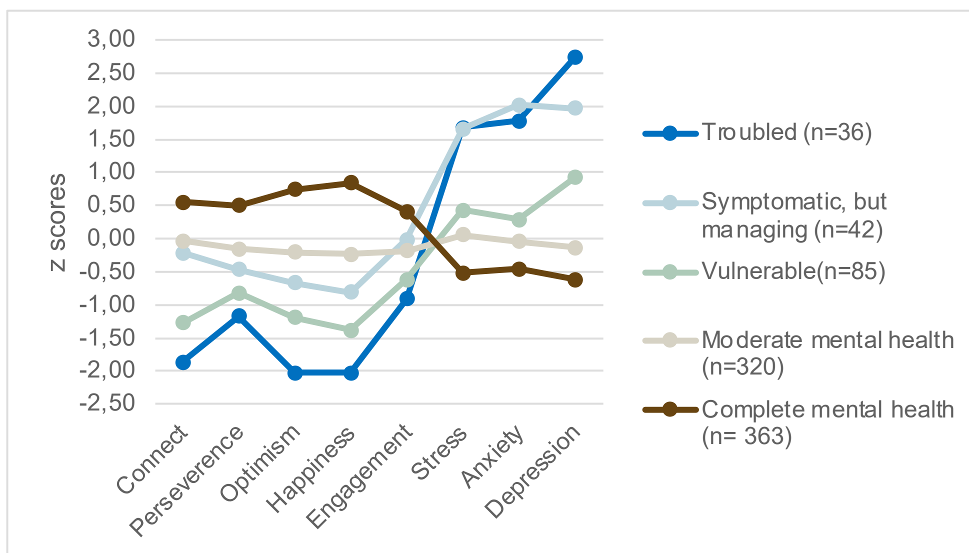

Figure 1. The Mental Health Profiles Illustrated With Z-Scores on All the Subscales of EPOCH and DASS

Describing the Profiles

Based on the pattern of mean scores across the well-being and mental health problems indicators, the following labels were suggested for the five classes: *complete mental health* (above average well-being, below average distress; 363 youths, 42.9% of the sample), *moderate mental health* (average well-being, average distress, 320 youths, 37.8% of the sample), *symptomatic but managing* (below average well-being, very above average distress; 42 youths, 5% of the sample), *vulnerable* (below average well-being, slightly above average distress; 85 youths, 10% of the sample) and *troubled* (very below average well-being and very above average distress; 36 youths, 4.3% of the sample). The profiles are presented in Figure 1. Thus, three of the five profiles have compromised mental health. In fact, in terms of the severity of the emotional states of depression, anxiety, and stress, 88.2%, 61.8% and 55.9% of the individuals with the *troubled* profile reported severe or extremely severe levels of depression, anxiety, and stress, respectively. Likewise, 69.5%, 71.7% and 50.0% of individuals in the *symptomatic but managing* profile reported severe or extremely severe levels of depression, anxiety, and stress, respectively.

Regarding the gender distribution across the mental health profiles, the *complete mental health* profile had a significantly lower proportion of female students than male ones (38.4% vs. 52.4%, $\chi^2 = 15.06$, $p < .001$), whereas roughly equal amounts of males and females were found in the *moderate mental health* profile (39.1% vs. 34.6%, $\chi^2 = 1.63$, $p = .20$) and *vulnerable* profile (9.9% vs. 9.8%, $\chi^2 = 0$, $p = 1.00$).

Female students were in greater proportions than male students for the *troubled* profile (5.2% vs. 1.4%, $\chi^2 = 7.25$, $p = .007$) and the *symptomatic but managing* profile (7.4% vs. 1.7%, $\chi^2 = 11.86$, $p < .001$).

Differences between the profiles

A one-way between-groups multivariate analysis of variance (MANOVA) revealed significant differences between the profiles in the sensitivity subscales [$F(3, 842) = 59.21$, $p < .001$, Wilk's Lambda = .83, $\eta^2 = .17$]. We observed significant differences for all subscales: ease of excitation [$F(1, 844) = 90.40$, $p < .001$, $\eta^2 = .10$], low sensory threshold [$F(1, 844) = 26.46$, $p < .001$, $\eta^2 = .03$], aesthetic sensitivity [$F(1, 844) = 39.22$, $p < .001$, $\eta^2 = .04$]. Games-Howell post-hoc testing indicated that the *complete mental health* profile had significantly lower scores than did the other profiles on ease of excitation ($p < .001$) and lower scores on low sensory threshold than most profiles ($p = .03$–$.001$), with the exception of the *troubled* profile, which did not significantly differ from the *complete mental health* profile on low sensory threshold scores ($p = .35$). The *complete mental health* profile had higher aesthetic sensitivity scores than did the *vulnerable* and *moderate mental health* profiles ($p < .001$) but did not significantly differ from the *troubled* ($p = .16$) or *symptomatic but content* profile ($p = .89$). The *symptomatic but managing* profile did not significantly differ from the *troubled* profile for any sensitivity subscale (ease of excitation $p = 1.00$, low sensory threshold $p = .99$, aesthetic sensitivity $p = .56$; see Table 5).

Another one-way between-groups MANOVA revealed significant differences between the mental health profiles on the coping self-efficacy subscales [$F(3, 842) = 165.37$, $p < .001$, $\eta^2 = .37$]. We again found significant differences for all the subscales: problem-focused coping [$F(1, 844) = 229.63$, $p < .001$, $\eta^2 = .21$], stopping unpleasant emotions and thoughts [$F(1, 844) = 219.38$, $p < .001$, $\eta^2 = .21$], and support from friends and family [$F(1, 844) = 338.76$, $p < .001$, $\eta^2 = .29$]. Post-hoc testing using the Games-Howell test (which does not assume equal variances) indicated that the *complete mental health* profile showed significantly higher scores on all subscales of coping self-efficacy than did the other profiles (see Table 5 for details). The *symptomatic but managing* profile had higher scores than did the *troubled* profile on problem-focused coping ($p = .02$) and support from friends and family ($p < .001$), but the profiles did not significantly differ on scores for stopping unpleasant emotions and thoughts ($p = .3$; see Table 5 for details).

Table 5. Means (SD) and Results of ANOVA Comparing the Mental Health Profiles on Sensitivity, Coping Self-Efficacy and Distress During COVID-19

	Mental health profiles					ANOVA		
Variable	A Complete mental health	B Moderate mental health	C Symptomatic but managing	D Vulnerable	E Troubled	F	*p*	Post-hoc
Sensitivity	4.43 (.78)	4.73 (.78)	5.07 (.77)	4.80 (.78)	4.93 (.88)	13.10	< .001	
EOE	4.01 (1.22)	4.67 (1.07)	5.23 (1.00)	4.92 (1.04)	5.27 (1.17)	30.06	< .001	A<B-E
LST	3.18 (1.36)	3.64 (1.34)	3.86 (1.48)	3.92 (1.47)	3.71 (1.57)	8.44	< .001	A<B-D
AES	5.90 (.76)	5.63 (.88)	5.77 (.87)	5.31 (.96)	5.40 (1.22)	10.63	< .001	A>B, D
Coping SE	(1.48)	6.59 (1.29)	5.87 (1.38)	5.22 (1.50)	4.46 (1.52)	132.80	< .001	
PFC	8.40 (1.58)	7.11 (1.56)	6.64 (1.81)	6.14 (1.92)	5.32 (1.90)	64.20	< .001	A>B-E, C>E
SUET	7.16 (2.37)	5.46 (2.10)	4.09 (2.17)	4.04 (1.67)	3.22 (1.95)	69.32	< .001	A>B-E
SFF	8.88 (1.93)	7.07 (2.11)	6.70 (2.31)	4.96 (2.21)	4.41 (2.55)	95.24	< .001	A>B-E, C>E
Distress during COVID-19	3.20 (.70)	3.35 (.67)	3.32 (.92)	3.26 (.77)	3.29 (.85)	1.94	.10	

Note. EPOCH = the EPOCH Scale of Adolescent Well-being; DASS = Depression, Anxiety and Stress Scale; EOE = ease of excitation; LST = low sensory threshold; AES = aesthetic sensitivity; Coping SE = coping self-efficacy; PFC = problem-focused coping; SUET = stop unpleasant emotions and thoughts; SFF = support from friends and family.

Distress during COVID-19 and its relations to Gender, Coping and Sensitivity

We observed no differences between profiles for distress during COVID-19 (see Table 5), meaning that the pandemic distress did not appear to relate to prior levels of well-being or psychological symptoms as captured by the profiles.

Descriptive statistics were run to look at the COVID-19 questions separately to get a picture of the general level of worry, stress, physical health symptoms, and how the pandemic had affected participants' well-being. Overall, a majority (51.8%, $n = 438$) of participants felt more or much more worried during the pandemic than usual, while 11.2% ($n = 95$) felt either less or much less worried. About a third considered their worry to be the same as usual (36.4%, $n = 308$). Moreover, the majority (55.2%, $n = 466$) of the participants felt either more or very much more stressed during the pandemic than usual, compared to 20.2% ($n = 171$) who felt less or much less stressed. Altogether, 24.1% ($n = 204$) felt equally stressed as usual. About a third (29.5%, $n = 249$) of the participants felt that the pandemic had had a negative impact on their physical health, while 14.8% ($n = 125$) felt their physical health was either better or much better. Most students (55.2%, $n = 467$) considered their physical health to be on the same level as usual. The overall impact of the pandemic on participants' well-being was negative for 35.7% ($n = 301$) of the

participants, while 33.3% ($n = 281$) surprisingly saw the pandemic as having a positive effect on their well-being; the remaining students considered the impact to be the same as usual (29.9%, $n = 253$; see Table 6).

Pearson correlation analyses demonstrated that distress during COVID-19 was positively correlated with gender, with girl students experiencing higher levels of pandemic distress than boys (girls were coded 1, boys coded 0: $r = .25$, $p <. 01$). Distress during COVID-19 was also significantly positively correlated with all subscales of sensitivity (ease of excitation $r = .26$, low sensory threshold $r = .12$, and aesthetic sensitivity $r = .11$, $p < .01$), significantly negatively correlated with two of the coping self-efficacy subscales (problem-focused coping $r = -.13$, stopping unpleasant emotions and thoughts $r = -.16$, $p < .01$) and not correlated at all with support from friends and family. Although most of the correlations were significant, they still reflected weak relationships between the primary study variables and perceived distress during COVID-19.

Table 6. Number and Percentages of Participants with Symptoms Due to the Pandemic (N = 846)

Question	Higher/worse than usual	Same as usual	Lower/better than usual
Worry during the pandemic	438 (51.8%)	308 (36.4%)	95 (11.2%)
Stress during the pandemic	466 (55.2%)	204 (24.1%)	171 (20.2%)
Physical health during the pandemic	249 (29.5%)	467 (55.2%)	125 (14.8%)
General impact of pandemic on well-being	301 (35.7%)	253 (29.9%)	281 (33.3%)

Discussion

The main aim of the current study was to identify Swedish high school students' mental health profiles according to the dual-factor model (e.g., Suldo & Schaffer, 2008; Moore et al., 2019) and examine how these differ in terms of environmental sensitivity and coping self-efficacy.

To identify profiles, we used LPA instead of cut-off scores, which 'forces' the data into four profiles that may not be reflective of reality (see Moore et al., 2019). As a result, a five-profile solution was found to be the best fit: *complete mental health*, *moderate mental health*, *symptomatic but managing*, *vulnerable* and *troubled*. Moreover, like Suldo and Schaffer (2008), we also found a fifth profile: *moderate mental health*. It should be noted that Moore et al. (2019) also found a *moderate mental health* profile, but they did not find the *vulnerable* profile. *Moderate mental health* profile differs from *vulnerable* in that *moderately mentally healthy* students have higher well-being and lower psychological distress than do *vulnerable* students – however, they have clearly lower well-being and higher symptoms than do the *complete mental health* profile. *Moderate mental health*

profile is therefore considered to have an average level of both well-being and psychological distress. Our results partly supported the replication of dual-factor mental health profiles while using different measures for mental health than previous studies have used (e.g. Suldo & Schaffer, 2008; Moore et al., 2019).

Another diverging result was the ‘symptomatic but content’ profile found by Suldo and Schaffer (2008) and Moore et al. (2019), which they described as average or above average well-being and above average distress, whereas for our study this profile had below average well-being (0–0.85 SD below average) and highly above average distress. We could therefore not call our profile ‘symptomatic but content’, opting instead for ‘symptomatic but managing’ since their well-being levels were compromised. Therefore, we did not find support for a profile in which highly above average distress co-occurs with average or above average well-being, as found in previous studies of dual-factor profiles (Suldo & Schaffer, 2008; Moore et al., 2019; Antaramian et al., 2010; Eklund et al., 2011; Renshaw et al., 2014). This may be because we measured well-being and distress differently from previous studies. For instance, instead of using the internalizing and externalizing symptoms measures for distress as used by Moore et al. (2019) – namely, the Strengths and Difficulties Questionnaire (SDQ; Goodman, 1997, 1999) – we used a measure of depression, anxiety, and stress (DASS; Lovibond & Lovibond, 1995). Additionally, while the SDQ is a widely used instrument to measure emotional and behavioural problems in children and adolescents, its ability to capture emotional problems is somewhat weak. For instance, Lundh et al. (2011) indicated that the SDQ’s 5-item subscale for measuring emotional symptoms contains only one depression-related item, whereas it contains three items related to nervousness, fear, and worry, and one somatic item. Further, externalizing symptoms (e.g. inattention/hyperactivity, conduct problems; Goodman, 1997, 1999) as captured in the SDQ may be more likely co-occur with simultaneously moderate or even high levels of well-being, allowing for the emergence of a *symptomatic but content* profile; internalizing symptoms such as depression and anxiety may not co-occur with high well-being (e.g. Spinhoven et al., 2015), potentially explaining why this profile was not found in our study. Furthermore, Suldo and Schaffer (2008) used the Self-Report and Teacher Report Form of the Child Behavior Checklist (Achenbach & Rescorla, 2001), the latter of which is used by teachers to estimate the child’s behaviour over the past two months in externalizing behaviour, rule-breaking, and aggression, which may be more likely to co-occur with high well-being compared with internalizing problems. By contrast, the DASS (Lovibond & Lovibond, 1995) is commonly used for measuring current state levels of depression, anxiety, and stress, which may be less likely to co-occur with well-being. In fact, Spinhoven et al. (2015) noted that currently high depression and anxiety are associated with lower subjective well-being. However, this issue needs further exploration – it is theoretically and practically interesting to know whether an individual can have simultaneously high levels of internalizing problems such as depression, anxiety and stress and well-being, particularly when these are measured as current states

rather than as previous diagnoses. People with previously diagnosed comorbid depressive and anxiety disorders have been found to have higher well-being than those currently experiencing symptoms of comorbid depression and anxiety (Spinhoven et al., 2015).

As expected, the profiles differed widely in terms of well-being and distress, largely replicating previous findings (Suldo & Schaffer, 2008; Antaramian et al., 2010; Moore et al., 2019). With regards to well-being, particularly stark differences were found for the optimism and happiness subscales of the EPOCH, which differences of up to 2.8 standard deviations between the *complete mental health* profile and the *troubled* profile. Accordingly, *complete mental health* appears to reflect a more optimistic outlook on life and stronger feelings of happiness compared to the other profiles, especially in comparison to the more compromised mental health profiles. This was a new finding, given that previous studies did not use the EPOCH (Kern et al., 2016) to delineate profiles.

By contrast, an optimistic outlook and happiness were particularly compromised for the *troubled* and *vulnerable* profiles. This makes sense, particularly given that optimism and happiness are considered to reflect hedonic well-being, which is more related to more positive affectivity and cognitive estimations of one's life (Huta & Waterman, 2014). Hedonic well-being may be particularly compromised in students with elevated distress (see Spinhoven et al., 2015). For example, Spinhoven et al. (2015) found that participants who had high levels of depression and anxiety showed significantly lower levels of subjective well-being (i.e., hedonia) than did controls.

Similarly, various levels of distress showed stark differences: for depression, the *complete mental health* profile had scores approximately 3 standard deviations below the *troubled* profile and 2.5 standard deviations below the *symptomatic but managing* profile. The majority of students in these latter two profiles had clinical levels of depression and anxiety, suggesting that they would need particular attention. This was a striking finding that differed from those of previous dual-factor studies, calling for further consideration of how to best help students with severely compromised mental health.

The *vulnerable* profile has simultaneously compromised well-being but only slightly above average distress (to a much lesser degree than the *troubled* profile). An interesting profile is the *symptomatic but managing* profile, which had equally high levels of distress as the *troubled* profile (2–3 standard deviations above the sample mean) but only below average well-being (0–0.8 standard deviations lower than the sample mean), whereas the *troubled* profile had severely compromised well-being (approximately 1–2 standard deviations below the mean). Therefore, the *symptomatic but managing* profile differs from the *troubled* profile only in well-being. In this way, the *symptomatic but managing* profile resembles the previously found 'symptomatic but content' profile (Suldo & Schaffer, 2008; Moore et al., 2019) but with even lower levels of well-being.

The seriously elevated levels of distress found in the *troubled* and *symptomatic but managing* profiles indicates an urgent need to attend to these students. Since

both their mental health and their well-being are compromised, interventions targeting both would be necessary (i.e., psychological help such as counselling as well as positive interventions enhancing well-being). However, since group-level positive interventions have shown low overall effect sizes (White et al., 2019), not all students may benefit from them, particularly those with high levels of distress. Therefore, these students might benefit more from individualized, targeted interventions combining both psychotherapist/psychiatrist help with positive intervention elements (i.e., Norrish, 2015; Norrish et al., 2013), instead of receiving only class-level positive interventions.

Regarding the gender distributions, as expected, we found that the *complete mental health* profile had a significantly higher proportion of boys than girls, with girls being in significantly greater numbers in the compromised profiles. In fact, girls were three times more likely to demonstrate the *troubled* or *symptomatic but managing* profiles compared to boys, adding to the well-established body of research indicating that girls are more vulnerable to mental health problems than boys (e.g. Campbell et al., 2021). These results also support the trend in gender differences in mental health found in Sweden (Schierenbeck & Karlsson, 2018). Notably, we found that no significant gender distribution differences in the *moderate mental health* and *vulnerable* profiles. It is important to consider gender differences in mental health within dual-factor profile studies to better recognize potentially vulnerable students.

With regards to environmental sensitivity, while it was expected that the c*omplete mental health* profile would have lower scores on ease of excitation (which is commonly found to be related to mental health problems, Pluess et al., 2018; Greven et al., 2019) compared to the other profiles, we surprisingly found that the *complete mental health* profile had lower scores on low sensory threshold than most of the other profiles (except the *troubled* profile, with which they did not significantly differ). This may be because sensitivity is related to so-called differential susceptibility (Ellis & Boyce, 2011; Belsky & Pluess, 2009; Boyce, 2019) meaning that it is related to both mental health problems and high well-being (Boyce, 2019). Furthermore, as expected, the *complete mental health* profile had higher scores on aesthetic sensitivity than did the *moderate mental health* and *vulnerable* profiles, but surprisingly did not differ from the *symptomatic but managing* or *troubled* profile. It may indicate that aesthetic sensitivity is high for both mental health 'extremes'. Previous studies have suggested that aesthetic sensitivity may be a reason for the differential susceptibility shown by individuals with high environmental sensitivity (i.e. high well-being in favourable environmental conditions but higher psychopathology in negative conditions, e.g. Pluess & Boniwell, 2015; Boyce, 2019; Nocentini et al., 2018). That is, while low sensory threshold and ease of excitation are commonly related to adverse mental health (Pluess et al., 2018; Belsky & Pluess, 2009), aesthetic sensitivity is related to well-being (Pluess et al., 2018). This was replicated in our study, with the addition that aesthetic sensitivity was found to be high also for the *symptomatic but managing*

and *troubled* students, might partly explain the average engagement for the *symptomatic but managing* and the less impaired engagement for the *troubled* profile compared to the other well-being dimensions. Perhaps, if the *symptomatic but managing* and *troubled* students are also highly aesthetically sensitive, and aesthetic sensitivity is a positive factor in general, encouraging its use could be a target for interventions (e.g. interventions targeting creative endeavours, appreciation, and production of beauty in arts, music or nature). The nuances of aesthetic sensitivity for mental health should be further explored.

We also found clear differences between profiles in coping self-efficacy. The *complete mental health* profile had, as expected, higher coping self-efficacy scores than did the other profiles. This indicates that positive mental health is related to a strong sense of being able to engage with coping methods in stressful situations such as seeking social support, solving the problem, or stopping unpleasant emotions and thoughts. This finding replicated those of Chesney et al. (2006), who found that particularly elevated levels of self-efficacy for problem-focused coping and stopping unpleasant emotions and thoughts were positively related to higher levels of optimism and lower levels of stress and anxiety. Self-efficacy in general has been related positively to life satisfaction and optimism (Azizli et al., 2015), while coping self-efficacy specifically was inversely related to depression (Kwasky & Groh, 2014), suggesting that self-efficacy beliefs about coping are an important support for higher mental health in adolescents.

As expected, the *troubled* profile had significantly lower scores for coping strategies than did the other profiles, indicating that *troubled* individuals might find it harder to cope with difficult situations in their lives, or at least they do not believe they have the necessary resources to do so. Notably, the *symptomatic but managing* profile had significantly higher scores on support from friends and family and problem-focused coping than did *troubled* profile. Thus, what separates *symptomatic but managing* students from their *troubled* peers may be their ability to cope in seeking (and receiving) social support and being able to solve problems and might explain their close to average connection to others (the "connectedness" well-being dimension). Clearly, however, *symptomatic but managing* students cannot seem to avoid negative thoughts, which may be partly responsible for their higher symptoms.

Distress during COVID-19 was unrelated to any of the profiles. Generally, the distress expressed by the students for the pandemic was moderately high, with half of the sample being more stressed and worried than usual and a third of the sample feeling like their physical health was compromised. The fact that distress during COVID-19 was not related to the profiles suggests that the pandemic, at least in its beginning, was equally distressing regardless of level of mental health and having complete mental health does not necessarily buffer against the stress and worry of such a time. Even so, we did find that distress during COVID-19 was weakly negatively correlated with coping self-efficacy. Therefore, it might be that coping self-efficacy would help adolescents better deal with the distress of the pandemic. We also

found that female students were more negatively affected by the pandemic, replicating previous findings on the pandemic's negative influence particularly on girls (see Prowse et al., 2021). However, interestingly also a minority of students indicated that the pandemic had had a positive effect on their well-being. This might suggest that these students might have felt more comfortable staying at home during the school days given that schools were closed at the time of the study. More research about the positive side of the pandemic experiences would be needed, however.

Strengths and Limitations

Some of the strengths of this current study are (1) that the sample size was rather large, allowing for a meaningful comparison among the profiles with regards to gender, and (2) that we used LPA instead of cut-off scores as recommended by Moore et al. (2019) with well-validated positive and negative measures of well-being. The LPA allows for a person-centred way to classify people into profiles, allowing for individuals to be considered as individuals rather than as an aggregate group (Ferguson et al., 2020), avoiding the more arbitrary method of cut-off scores, which may 'force' data into four profiles (see Moore et al., 2019).

One limitation of this study is that we only used self-report measures. This may elevate the risk of common method bias, risking a deflation or inflation of the intercorrelations between variables (see Podsakoff et al., 2003). Another possible limitation is that two of the five profiles were small (4% and 5.4% of the sample). Previously, Shanahan et al. (2013) argued that classes should not contain less than 5% of the sample. However, since that study, this suggestion has been relaxed and several publications have included class sizes smaller than 5% (O'Donnell et al., 2017). Furthermore, these two profiles contained youths with the lowest mental health, which may better reflect reality, as comparatively few youths have extremely high levels of mental ill health (about 2 SD above the sample mean). We believe that these small profiles are still relevant and important to take into account, reflecting the complexity of mental health profiles among adolescents and suggesting a need to discuss more targeted interventions for those with the most compromised well-being profiles.

Another limitation of this study was the use of pre-pandemic reporting (retrospective reporting) of well-being and psychopathological symptoms (data was collected only three months into the pandemic). We attempted to ameliorate this problem by comparing the results of 2020 to a sample from one of the same schools back in 2016 (way before the pandemic), to see if the levels of depression, anxiety and stress were similar. We found that in fact the sample of 2020 had no differences in anxiety nor stress, but reported lower levels of depression, compared to the sample from 2016, although the differences had very small effect sizes. This may indicate that students truly reported retrospectively (prior to pandemic) but may have even overestimated their levels of functioning (the subscale depression) as compared to the situation during the pandemic. Therefore, it is unlikely that the 2020

pre-pandemic reporting overestimate mental health symptoms due to influence of negative pandemic experiences but may even underestimate one subscale. This may lead to the conclusion that mental health problems in this group, already reported as rather severe in some profiles, may be quite severe overall.

Conclusion

This study of Swedish high school students' mental health profiles supported the dual-factor model to some extent (Suldo & Schaffer, 2008; Antaramian et al., 2010; Eklund et al., 2011; Renshaw et al., 2014) by identifying five mental health profiles: *complete mental health*, *moderate mental health*, *vulnerable*, *symptomatic but managing,* and *troubled*. One important finding was that we did not find a *symptomatic but content* profile (i.e., high on both distress and well-being; Suldo & Schaffer, 2008; Moore et al., 2019). Students in the *troubled* and *symptomatic but managing* profiles had high levels of distress, indicating a need for further targeted aid. There were differences in the gender distribution between the profiles, with more boys making up the *complete mental health* profile, but more girls making up the *symptomatic but managing* and *troubled* profiles. Therefore, girls had more compromised mental health in this study. While coping self-efficacy was clearly related to mental health, sensitivity displayed a differential pattern of relations: ease of excitation and low sensory threshold were related to compromised mental health profiles, whereas aesthetic sensitivity was related to both optimal and compromised mental health (indicating support for the differential susceptibility for sensitivity: see Belsky & Pluess, 2009). The profiles did not significantly differ with regard to pandemic distress, although girls reported higher levels of pandemic distress than did boys. Finally, considering that three of the five profiles indicated compromised mental health, there is a need for further mental health and well-being support and targeted intervention in schools.

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Table S1. Means and Standard Deviations of Measures of Mental Health for Sample 2020 (analytical sample) and Sample 2016

	Sample 2020 (N = 846)	**Sample 2016** (N = 190)	***t***	***p***	***Cohen's d***
DASS, M (SD)					
Depression	7.86 (9.14)	9.95 (9.51)	-2.77	.006	-0.23
Anxiety	7.97 (7.20)	8.63 (7.66)	-1.08	.279	-0.09
Stress	13.36 (8.37)	14.97 (10.02)	-2.23	.026	-0.16

Table S2. ***Means and Standard Deviations of Measures of Mental Health for Subsample 2020 (analytical sample) and Sample 2016***

	Subsample 2020 (n = 256)	**Sample 2016** (n = 190)	**t**	**p**	**Cohen's d**
DASS, M (SD)					
Depression	7.17 (8.38)	9.95 (9.51)	-3.23	.001	-0.31
Anxiety	8.29 (7.44)	8.63 (7.66)	-0.46	.649	-0.05
Stress	13.82(8.45)	14.97 (10.02)	-1.30	.195	-0.13

Note. These subsamples are samples of students from the same school in 2016 and 2020, therefore it is a smaller sample from 2020 than the whole sample spanning three different schools.

Article V

Adolescents' Sense of Self: How Social Relatedness, Self-Awareness and Authenticity Relate to Mental Health

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Abstract

Adolescence is a time of multiple psychosocial changes, such as the development of well-being skills to ensure a positive sense of self, higher well-being and lower psychopathological symptoms. A positive sense of self in adolescence is suggested to be comprised of healthy self-awareness coupled with self-compassion, as well as authenticity. Furthermore, a supportive social environment (social relatedness) is suggested as the precursor of the formation of a positive relationship with the self in adolescence. This study aims to test a theoretical mediation model of sense of self that assumes that social relatedness is related to the aspects of sense of self (i.e., self-awareness, self-compassion, authenticity), which in turn are related to happiness and mental distress. Altogether 522 Swedish adolescents ($M_{age} = 16$) took part in the study. Results showed a good overall model fit for the sense of self model. We tested the mediation relationships first for only the sense of self model, then with mental health as the outcomes. We found that the relationship between social relatedness and authenticity were significantly mediated via self-awareness and self-compassion, supporting the sense of self model. However, the mediation effect in the whole model with mental health as the outcome was not significant, contrary to expectation. That is, the relationship between social relatedness and mental health indicators was neither mediated via self-awareness and authenticity nor via self-compassion and authenticity. Therefore, we discuss that while adolescents' sense of self may contain the processes of self-awareness, self-compassion and authenticity, its relationship to better mental health is not clear-cut. More studies about these results are needed.

Keywords: *Sense of self, social relatedness, self-awareness, self-compassion, adolescent, well-being, personal growth*

Adolescents’ Sense of Self: How Social Relatedness, Self-Awareness and Authenticity Relate to Mental Health

Adolescence is a time of multiple psychosocial changes, especially in the ways in which one forms a sense of self (i.e. a way of representing their own self – one’s characteristics and behavior – to themselves; Berk, 2004; Harter, 2012). Adolescents want to find their own niche, question values and norms they are surrounded by and formulate their own, gear towards peer groups of like-minded people, and seek symbols in the popular culture that resonate with them such as hobbies, idols and music etc.

These multiple important changes in the way the self develops have important influences on adolescents’ well-being and mental health, such that self-critical or ruminative self-reflection whereby the adolescent may feel inferior to others and be an overly harsh critic of the self may lead towards mental health problems (Orchard et al., 2021; Roberts et al., 2021). Rumination may be linked with adolescent-onset depression, which can have detrimental long-term consequences to adulthood (Roberts et al., 2021). By contrast, an adolescent who is capable of more positive self-awareness (who can connect to their experience and emotions) and who is capable of being more self-compassionate (kind towards the self) may have higher levels of mental health and well-being (e.g. Neff & McGehee, 2010; Ciarrochi et al., 2011).

In the current study we focus on three important skills for improving the sense of self among adolescents: self-awareness, self-compassion, and authenticity. Self-awareness is the ability to be aware of one’s experience, emotions and behavior (Carden et al., 2021; Ciarrochi et al., 2011). Self-compassion is the kindness towards the self and feeling of connection to humanity (Neff & McGehee, 2010), Finally, authenticity is based on the ability to feel and behave in real-self ways, to feel ‘whole’ rather than fragmented in different social roles, feel like one knows oneself (Harter, 2012; Wood et al., 2008; Thomaes et al., 2017). All these three self-processes have been shown by separate studies to be related to higher levels of well-being and lower levels of psychopathological symptoms (i.e. Ciarrochi et al., 2008, 2011; Malhotra & Kaur, 2018; Marsh et al., 2018; Neff, 2011; Neff & McGehee, 2010; Thomaes et al., 2017; Wood et al., 2008; Joseph, 2016). Although self-awareness, self-compassion, and authenticity are skills which develop together during adolescence, it is notable that to the best of our knowledge, those skills have not been studied together in their effect on adolescences well-being and mental distress.

Furthermore, those three skills do not develop in a vacuum but are greatly impacted by how the adolescent perceives their social environment (i.e., social relatedness). Social relatedness is the feeling of belonging to a safe social environment with warmth and care (Ryan & Deci, 2018). Research suggests that

social relatedness is crucial in enhancing the integration of self processes whereby the adolescent can more easily approach authenticity and well-being (Harter, 2012). Harter (2012) suggests that a warm and accepting social environment is the basis from which the development of greater sense of self and authenticity can occur. Adolescents can more easily behave in real-self ways and hold opinions and thoughts truer to themselves without attempting to hide them to please others when they encounter unconditional positive regard (Harter, 2012; Harter et al., 2016; Rogers, 1961). Thus, in the present study we aim to examine first, whether social relatedness is a basis for the sense of self (self-awareness, self-compassion, and authenticity), and second, whether relatedness together with the three self-processes are related to adolescents' level of happiness and mental distress.

Relationships between self-processes and wellbeing

Adolescence is a time of heightened self-focus (Harter, 2012; Berk, 2004). Whether or not self-focus is positive or becomes detrimental for the adolescent's mental health and well-being is an important issue. Self-focus can also become self-critical or ruminative with an over-focus on negative states, negative social comparison and self-criticism (see Orchard et al., 2021; Roberts et al., 2021). Therefore, we suggest that a positive sense of self could be comprised of aspects of self-awareness coupled with self-compassion, which is a positive way of relating to the self (Neff, 2003, 2011). Furthermore, a sense of higher authenticity might be conducive to adolescent well-being (Thomaes et al., 2017) – i.e. the ability to express one's identity freely and be in touch with one's own values. These aspects are briefly overviewed next.

One crucial aspect of the sense of self is *self-awareness*. Self-awareness refers to the ability to understand, regulate and verbally express one's own emotions, cognition and beliefs (Carden et al., 2021; Rogers, 1961). Research has shown that adolescents with higher self-awareness tend to report fewer psychopathological symptoms (Weissman et al., 2020) and higher well-being over time (Ciarrochi et al., 2008; 2011). Lower levels of self-awareness, where adolescences focus on one's weaknesses, negative social comparison and blame the self for one's shortcomings, are linked to detrimental mental health outcomes such as depression, helplessness and self-harm (Orchard et al., 2021; Gong et al., 2019; Roberts et al., 2021; Harter, 2012). We suggest that self-awareness is an essential skill for the formation of a positive sense of self, as well as a basis for greater authenticity (i.e. ability to 'know the self'; Wood et al., 2008). We also expect that self-awareness is positively related to adolescent mental health, happiness and lower mental distress.

A second aspect of the positive sense of self is *self-compassion*. Self-compassion is defined as a balanced attitude of positive responding over negative responding to the self in face of different experiences, such as hardships and failures (Neff, 2003). Self-compassion during adolescence that has been found to be related to positive mental health and high well-being (Marsh et al., 2018; Neff & McGehee, 2010). However, for many adolescents, especially girls, it can be a challenge to acquire a

self-compassionate attitude because of many inner conflicts and self-criticism during adolescence (e.g. Harter, 2012; Roberts et al., 2021; Orchard et al., 2021). As discussed by Marsh et al. (2018), it is possible that the rise of the 'imaginary audience' (i.e. a feeling of being in the focal point of everyone's attention) particularly during later adolescence together with the popular cultural judgment of women (see Grant, 2013) may enhance self-criticism among particularly girl adolescents, lessening self-compassion (see Neff & Vonk, 2009; Marsh et al., 2018). This might be coupled with higher levels of psychological distress (Grant, 2013). However, adolescents who are capable of higher self-compassion are less likely to suffer from distress, such as depression, anxiety and stress (Marsh et al., 2018). Therefore, we expect to replicate this finding of self-compassion's positive mental health relation in our model.

A third aspect of the sense of self is *authenticity*. Authenticity refers to the ability to 'know oneself' as well as have a sense of coherence with the self rather than a fragmented self-image (Harter, 2012; Wood et al., 2008; Joseph, 2016). It has been shown to be linked with greater well-being in various studies (see meta-analysis by Sutton, 2020; also: Wood et al., 2008; Joseph, 2016; Thomaes et al., 2017). For instance, among adolescents a sense of greater authenticity has been shown to be linked with well-being and need satisfaction (Thomaes et al., 2017), which makes sense given that adolescence is a time for identity exploration and formation, and the desire to express who one is (Thomaes et al., 2017; Fleischer, 2005; Russo-Netzer & Shoshani, 2020). In adolescence, the self becomes an important point of reflection and adolescents view themselves as ''motivational agents'' for whom values, hopes and dreams are relevant for identity formation and view of self (Bonnie & Backes, 2019). While early adolescents in particular (upto 13 years of age) may hold abstract contradictions of themselves, such as being shy in the classroom and talkative and zestful among close friends (example by Bonnie & Backes, 2019), such discrepancies start to be held with less confusion and more acceptance and a holistic view of the integrated self in later adolescence emerges (17 years of age or so; Harter, 2012). One may gradually come to accept and understand that the self is complex and may hold simultaneously seemingly contradictory aspects, however, one gradually integrates these aspects of the self more (see Bonnie & Backes, 2019), therefore approaches authenticity. Adolescents are motivated by being their 'authentic selves' without needing facades and defences (see Thomaes et al., 2017). We expect that authenticity is related to positive mental health outcomes.

Although self-awareness, self-compassion, and authenticity are three aspects of the sense of self, they are conceptually not on the same level. Conceptually, self-awareness and self-compassion are suggested to lead towards greater authenticity (e.g. Maurer & Daukantaité, 2020; Joseph, 2016; Zhang et al., 2019). Authenticity entails aspects of being in touch with oneself (i.e. connected to one's experience and emotions), and being able to live in accordance with oneself and one's values (Wood et al., 2008). Such aspects require one to be more knowledgeable of oneself (i.e., be

self-aware), open towards one's experiences, and have a self-compassionate attitude towards the self that may override some possible barriers to authenticity such as fear of negative evaluation, shame and reduced optimism (Zhang et al., 2019).

Therefore, it is suggested in our model that from the satisfaction of the need for relatedness (discussed next) the adolescent may be able to start to observe their inner process, be open towards their experiences and emotions and gain in self-awareness. Self-awareness is suggested to happen prior to the formation of authenticity, given that authenticity is partially defined as the ability to 'know the self', i.e. have self-awareness (Wood et al., 2008; Joseph, 2016) – therefore, the skill of self-awareness is suggested as a precursor to authenticity. Furthermore, self-compassion is suggested to occur alongside self-awareness in the formation of a positive sense of self, given that self-awareness by itself might also be ruminative or self-critical, which is related to psychological problems (Roberts et al., 2021; Orchard et al., 2021). We suggest, therefore, that together the formation of self-awareness and self-compassion can result in greater authenticity, which is related to greater levels of positive well-being and mental health outcomes for adolescents. We further suggest that authenticity is related to positive mental health outcomes, both higher happiness, and lower levels of psychopathology, considering similar previous results (i.e. Wood et al., 2008; Joseph, 2016; Sutton, 2020; Thomaes et al., 2017).

How social relatedness may be related to sense of self

Although the sense of self with the three aspects self-awareness, self-compassion and authenticity have strong positive associations with adolescent well-being and mental health (Harter, 2012; Ciarrochi et al., 2008, 2011; Sutton, 2020; Thomaes et al., 2017; Neff & McGehee, 2010), they are affected by social relatedness. Social relatedness refers to the feeling of belonging with the presence of a warm and inclusive social environment for adolescents (e.g. Ryan & Deci, 2018). Conceptually, social relatedness should impact self-awareness, self-compassion and authenticity. This is related to Harter's (2012) theory of the development of self and authenticity in adolescents, which suggests that a supportive social environment enables the process of forming authenticity during adolescence by supporting adolescents in behaving more real-self ways. Harter et al. (1996) found that conditional regard (with a lack of social relatedness) was associated with adolescents' desire to please others with the pursuit of false-self behaviors undermining their true selves, suggesting that authenticity is compromised in situations when social relatedness is lacking. Social relatedness, therefore, seems to be a precursor for the successful adolescents' formation of a positive sense of self, development of their authenticity as well as their well-being and mental health (e.g. Harter, 2012; McAdams et al., 2017; Rogers, 1961; Chu et al., 2010: Ross et al., 2020; Baeva et al., 2018). Thus, we suggest that at the basis of adolescents' forming a positive sense of self is the supportive quality of the social environment, which satisfies the adolescent's need for relatedness (i.e. Ryan & Deci, 2018). This is

suggested because growth processes, such as the formation of a positive sense of self, may require a social context which is psychologically safe (Maurer & Daukantaité, 2020) and supportive (Harter, 2012) so that the adolescents do not need to resort to defensiveness but rather can put their energies to exploring their inner worlds freely (Maurer & Daukantaité, 2020; Harter, 2012). Ross et al. (2020) define adolescent well-being as ''Adolescents have the support, confidence, and resources to thrive in contexts of secure and healthy relationships, realizing their full potential and rights'', therefore emphasizing the important role a supportive and psychologically safe social environment plays for adolescent well-being.

The present study

The aim of the current study is to test a theoretical model of sense of self during adolescence and see how it relates to adolescents' well-being or mental distress. The theoretical model (Figure 1) assumes that social relatedness is related to the aspects of sense of self (i.e., self-awareness, self-compassion, authenticity), which in turn are related to happiness and mental distress. In the present study, the model is tested in a sample of Swedish adolescents (age range 15–17 years) based on cross-sectional data.

Based on the studies and the theoretical rationale presented, we hypothesize that social relatedness is positively associated with the aspects of sense of self (self-awareness, self-compassion, authenticity) and positively to happiness, while negatively to mental distress (H1). We also hypothesize that the link between social relatedness and authenticity is mediated by self-awareness and self-compassion (H2). Also, looking at the whole model simultaneously, based on Harter's (2012) theory and our own suggestions, we hypothesize that the relationship between social relatedness and our dependent variables happiness vs. mental distress is mediated by self-awareness, self-compassion, and authenticity (H3).

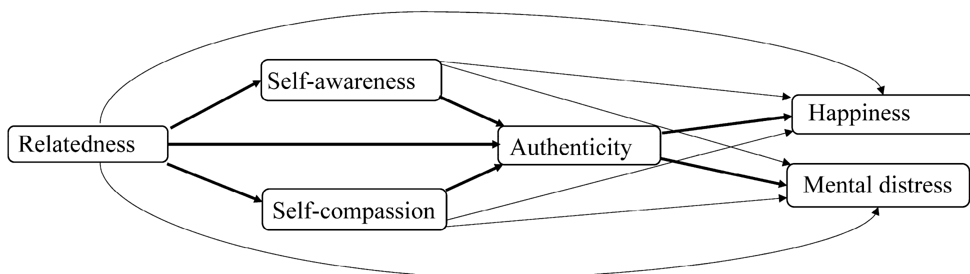

Figure 1. The model of a sense of self among adolescents. The bolder lines indicate the main relationships suggested in the model.

Methods

Participants

Altogether four municipality schools in three cities in southern Sweden were contacted to take part in a study on student well-being. Altogether 532 students answered the survey. Out of these 10 participants needed to be excluded due to having left a significant portion of the items unanswered (*n* = 1) or having wrongly responded to more than three control questions randomly placed in the survey (*n* = 9). This was deemed to show inattentiveness in their responses. The sample size after these deletions was 522. The ages of the participants ranged narrowly between 15–17 years of age, with a significant majority being 16 (*n* = 487, 93.3%) years of age. Participants indicated that they identified with being a 'girl/woman' (*n* = 313, 60%), or 'boy/man' (*n* = 199, 38.1%) or 'other' (*n* = 10, 1.9%). The majority of the students indicated having been born in Sweden (*n* = 435, 83.3%), and more than half had a mother who was born in Sweden (*n* = 343, 65.7%) and a father born in Sweden (*n* = 347, 66.5%).

Measures

Relatedness

Relatedness was measured by the Relatedness satisfaction items (and reversed frustration items) of the Basic needs Satisfaction and Frustration scale (BPNSFS) (Chen et al., 2015). The relatedness satisfaction scale consists of altogether 8 items, e.g.*''I feel that people I care about also care about me.''* Answer options range on a 5-point Likert-scale from *'Not at all true'* to *'Very true'*. The subscale was translated into Swedish with the back-translation process (Sousa & Rojjanasrirat, 2011), using a native Swedish speaker to initially translate the scale, and another Swedish-speaker translating the Swedish items back into English. A native English-speaker estimated whether the back-translated items matched the original items in meaning. High match in meanings were reported. Previous studies have shown satisfactory to high internal consistencies and reliabilities of the scale and subscales (Chen et al., 2015; Abidin et al., 2021). In the current study the internal consistency of the combined Relatedness satisfaction and frustration (reversed items) was high (Cronbach's α = .84).

Self-awareness

Self-awareness was measured by the subscale *Mentalization of self* of the Mentalization scale (Dimitrijević et al., 2018). The subscale comprises 8 items (e.g., *''When I get upset, I am not sure whether I am sad, afraid, or angry''* , reversed). Answers are given on a 5-point Likert-scale ranging from *'Almost never true'* to

'Almost always true'. A similar back-translation process into Swedish as reported previously was also subjected to this subscale. Previous research has shown the scale to have good validity and reliability (Dimitrijević et al., 2018). In the present study the internal consistency was high (Cronbach's α = .80).

Self-compassion

The Self-compassion scale short form (SCS-SF) (Raes et al., 2011) was used in the present study. The scale consists of 12 items comprising altogether 6 subscales with 2 items each: self-kindness, self-judgment, common humanity, isolation, mindfulness, and over-identification. Because the subscales on their own are only composed of two items, and therefore may be low on internal consistency, we opted to use the scale in its totality as a summed up self-compassion score. An example item is *''I try to be understanding and patient towards those aspects of my personality I don't like''* (self-kindness). Answer options range on a 5-point Likert-scale from *'Almost never'* to *'Almost always'*. The scale was translated into Swedish using the same back-translation process (Sousa & Rojjanasrirat, 2011) as reported above. High validity and reliability of the total scale has been reported previously (Raes et al., 2011). In our study the internal consistency of the total scale was high (Cronbach's α = .82).

Authenticity

The authentic personality scale (Wood et al., 2008) is a 12-item scale consisting of three subscales: 1) alienation from the self (reversed); 2) accepting external influence (reversed) and 3) authentic living. An example item is *''I live in accordance with my values and beliefs''* (authentic living). The answers range on a 7-point Likert-scale between *'Totally disagree'* to *'Totally agree'*. We decided to use the whole scale in its totality, rather than the subscales separately, given that authenticity is a holistic concept including all these three aspects in unison, and matched the description of integration of the self of the PGP model. This scale had been previously back-translated into Swedish with the same research team with high internal consistency found (see Vainio & Daukantaité, 2016) and this previous translation was therefore used. The validity and reliability of the scale has been reported good (Wood et al., 2008; Vainio & Daukantaité, 2016). In our study the internal consistency of the total scale was likewise high (Cronbach's α = .80).

Happiness

The happiness subscale of the total EPOCH scale of Adolescent well-being (Kern et al., 2016) was used in this study. The happiness subscale consists of 4 items with an example item: *''I feel happy''*. The answer options are given on a 5-point scale with *'Almost never'* to '*Almost always.'* The scale has been previously validated in Swedish (Maurer et al., 2021). The scale has been reported to have very high internal

consistency, validity and reliability (Kern et al., 2016; Maurer et al., 2021). In our study the happiness subscale had high internal consistency (Cronbach's α = .87).

Mental distress

Mental distress was measured by the Depression, anxiety and stress scale (DASS-21; Lovibond & Lovibond, 1995). The scale consists of 21 items with three subscales: 1) depression, 2) anxiety and 3) stress. An example item for depression is *''I couldn't seem to experience any positive feelings at all.''* Participants are instructed to answer how they have been feeling over the past few weeks. Answers range on a 4-point Likert-scale from *'Did not apply to me at all'* to *'Applied to me very much'*. The scale's validity and reliability have been supported by previous studies (Lovibond & Lovibond, 1995). In the present study the internal consistency of the total scale was high (Cronbach's α = .93).

Procedure

An online survey was distributed to the participating students over email with the consent and collaboration of the schools and the teachers. The students were allocated time during the school day to answer the survey with the supervision of the teacher in class. The students were asked informed consent for participation and given information about the study prior to participation. Also, the schools and parents had been informed about the study prior to data-collection. The battery of surveys had previously been tested on a smaller group of pilot participant sample (N = 42) of the same age (average 16 years of age) with high comprehensibility of the items reported. The survey was estimated to take between 15–30 minutes depending on the speed of response for each student.

Ethical considerations

This study was ethically approved by the Swedish Ethical Review Authority (2019-06552). Participants provided their informed consent indicating that they understood their rights to participate voluntarily, withdraw at any point without giving a reason, and the right of a pseudonymised and confidential data procedures. Given that the students were all above the age of 15, according to the Swedish Ethical Review Authority, seeking parental consent was not necessary.

Preliminary statistical procedures

The main goal of current study was to test theoretical assumptions about those factors which influence adolescences' sense of self. We used a structural equation modeling approach (SEM) with latent factors to examine a mediation chain model (Kline, 2016). This approach allows us to evaluate the theoretical structure including a mediation chain (Figure 1). We relied on common fit indices for model comparisons: χ2-value, CFI, TLI, and RMSEA (see Schermelleh-Engel, Moosbrugger, & Mueller, 2003).

Bootstrapping was used to estimate the indirect effects, as this procedure makes no assumptions about the sampling distribution of direct or indirect effects.

From a total of 78,369 assessed item values, 815 (1.04%) were missing. We tested the data with the Little's MCAR test of random missingness, χ^2 (14889) = 15037.19, p = .20, indicating that the missing values were not related to any of the studied variables and missing at random can be assumed (Little, 1988). The lavaan package in R (Rosseel, 2012) was used to compute all SEM models, applying a WLSM estimator.

Results

All hypotheses were tested by a SEM model. Before testing our hypotheses, a measurement model was tested. Fit indices indicated a good model to data fit: χ2 (*df* = 366) =866.6, $p < .001$); CFI = .966, TLI = .962, RMSEA = .054.

Further we estimated relationships between latent variables to test hypothesis 1. As Table 1 shows, social relatedness is positively and strongly associated with self-awareness, self-compassion, authenticity, and happiness and negatively associated with mental distress, which supported our hypothesis 1. Results further showed that both self-awareness and self-compassion are separately related to authenticity and happiness, and negatively related to mental distress, which supported our hypothesis 2.

Table 1. Means, standard deviations, and intercorrelations between the latent variables

	M (SD)	*Range*	1	2	3	4	5
1.Social Relatedness	31.9 (5.5)	9-40					
2.Self-awareness	20.7 (5.6)	0-35	.38				
3.Self-compassion	35.1 (7.9)	12-57	.42	.69			
4.Authenticity	54.7 (12.1)	0-84	.46	.74	.79		
5.Happiness	13.9 (3.7)	5-20	.64	.52	.69	.66	
6.Mental distress	38.9 (12.8)	20-84	-.48	-.66	-.76	-.76	-.70

Note. All correlations are significant at p < .001.

Mediation analysis

We hypothesized that the link between social relatedness and authenticity is mediated by self-awareness and self-compassion (H2), based on both Harter's (2012) theory of the self-processes in adolescence, and the rationale that authenticity requires having developed self-awareness (e.g. Wood et al., 2008 definition of authenticity) as well as self-compassion (Zhang et al., 2019).

Table 2. Direct effects of the SEM model when only testing self-awareness and compassion as mediators for authenticity.

	β	s.e.	z	p
Social Relatedness -> Self-awareness	.38	.05	7.36	<.001
Social Relatedness -> Self-compassion	.41	.05	8.09	<.001
Self-awareness -> Authenticity	.36	.09	4.22	<.001
Self-compassion -> Authenticity	.57	.09	6.17	<.001
Social Relatedness -> Authenticity	.13*	.07	1.94	.053

Note. The direct relationship when the mediators are included

Results indicate that the link between social relatedness and authenticity was mediated by self-awareness (β = .14 [CI95% .07; .22]; z = 3.63, $p < .001$) and self-compassion (β = .23 [CI95% .16; .34]; z = 5.06, $p < .001$), providing support for H3. The direct relationship between social relatedness and authenticity that was significant (β = .49; $p < .001$) before adding the mediators becomes insignificant (β = .13; $p < .053$) when the two mediators are included in the analyses indicating total mediation via the two aspects of sense of self (see Figure 2).

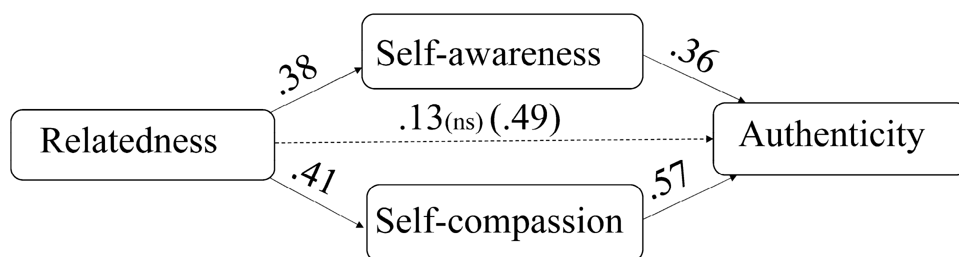

Figure 2. Testing a part of the sense of self model excluding mental health indicators with standardized coefficients (β) between variables.
Note. All β coefficients except those indicated with ns are significant at $p < .001$.

Finally, we tested hypothesis 3, which stated that the relationship between social relatedness and our dependent variables happiness vs. mental distress is mediated by self-awareness, self-compassion, and authenticity (H3).

Table 5. Direct effects of the main SEM model.

		β	s.e.	z	p
Social Relatedness	-> Happiness	.42	.09	7.13	<.001
Self-awareness	-> Happiness	-.04	.11	-0.45	.651
Self-compassion	-> Happiness	.43	.04	3.97	<.001
Authenticity	-> Happiness	.10	.08	0.42	.419
Social Relatedness	-> DASS	-.21	.34	-4.00	<.001
Self-awareness	-> DASS	-.20	.37	-2.66	.013
Self-compassion	-> DASS	-.49	.13	-4.61	<.001
Authenticity	-> DASS	-.06	.26	0.45	.558
Social Relatedness	-> Authenticity	.18	.16	-2.93	.003
Self-awareness	-> Authenticity	.34	.22	2.95	.003
Self-compassion	-> Authenticity	.46	.06	3.75	<.001
Social Relatedness	-> Self-awareness	.39	.09	5.78	<.001
Social Relatedness	->Self-compassion	.47	.29	7.90	<.001

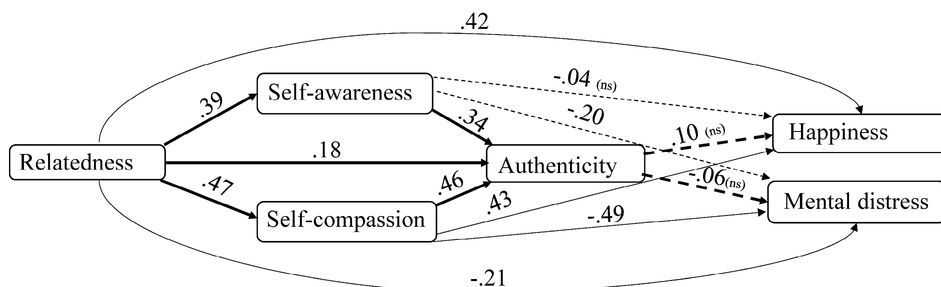

Figure 5. The whole model of sense of self showing standardized coefficients (β) between variables (H6). The bolder lines indicate the main relationships suggested.
Note. All *β* coefficients except those indicated with ns are significant at p < .001.

Results show that this hypothesis was not supported. Results indicate that the links between social relatedness and happiness and mental distress were not significantly mediated via the three self-variables. More specifically, the indirect link between social relatedness and happiness was not significantly mediated neither via self-awareness and authenticity (β = .04 [CI95% -.01; .12]; S.E. = .03, z = 1.29, p = .199) nor via self-compassion and authenticity (β = .07 [CI95% -.03; .20]; S.E. = .05, z = 1.31, p = .190).

The indirect link between social relatedness and mental distress was not significantly mediated neither via self-awareness and authenticity (β = -.04 [CI95% -.21; .00]; S.E. = .04, z = -1.06, p = .289) nor via self-compassion and authenticity (β = -.07 [CI95% -.33; .00]; S.E. = .06, z = -1.13, p = .260).

Discussion

In this study we aimed to test a theoretical mediation model of positive sense of self during adolescence. Based on previous studies and particularly the theory of the development of self and authenticity by Harter (2012) we suggested that the sense of self is developing in a supportive social environment comprising of the satisfaction of the need for relatedness (Ryan & Deci, 2018) for adolescents, leading to the formation of higher levels of authenticity. The direct relationship between relatedness and authenticity was also suggested to be mediated by two important self-processes, self-awareness, and self-compassion. It was considered that self-awareness would occur prior to the formation of authenticity given that authenticity includes within it the sense of 'knowing the self' (Wood et al., 2008; Joseph, 2016), i.e. having high levels of self-awareness. Self-compassion was suggested to be coupled with self-awareness once the sense of self is positive in adolescence, given that self-compassion is a kind way to respond to the self (Neff, 2011; Neff & McGehee, 2010). Self-awareness without self-compassion might also lead towards detrimental directions such as self-criticism and rumination, undermining mental health (Roberts et al., 2021; Orchard et al., 2021).

The results showed overall good model fit of the measurement model of sense of self. However, the main mediation model in which indirect relationship between social relatedness and mental health indicators neither via social awareness and authenticity nor via social compassion and authenticity were statistically significant (H3). While authenticity showed up as an important aspect of adolescent sense of self (H1 and H2), its role for adolescent mental health is not as clear-cut. While previous studies and theories have coupled authenticity with positive mental health outcomes (Thomaes et al., 2017; Bonnie & Backes, 2019; Wood et al., 2008; Joseph, 2016; Harter, 2012), in our study the relationships between authenticity and the two indicators of mental health, happiness and mental distress, were not strong or significant when the whole model was in question.

Our hypothesis H2, which looked at the results but discounted mental health from the model, the direct relationship between social relatedness and authenticity was fully mediated by self-awareness and self-compassion, as expected. This result is somewhat in line with the previous results that have found that different self-processes, self-awareness, self-compassion and authenticity are conducive to adolescent well-being (Ciarrochi et al., 2008, 2011; Mertens et al., 2022; Neff & McGehee, 2010; Marsh et al., 2018; Thomaes et al., 2017), but adds a new angle in showing how these self-processes may be interlinked in adolescent sense of self. For the formation of authenticity, both mediators explained the relationship between relatedness and authenticity totally, suggesting that when the social environment is supportive of the adolescent such that they are capable of being more themselves freely and feel accepted and connected, they may be more able to engage actively with themselves through self-reflection that enhances the skills of self-awareness, as well as a compassionate attitude towards the self, and this in turn enhanced

authenticity, much in line with Harter's (2012) ideas. Therefore, merely the provision of a positive social environment may not be enough to form authenticity, but also the adolescent needs to actively engage with themselves through positive and compassionate introspection to feel more authentic. We suggested that self-awareness would come prior to authenticity, given that authenticity already entails within its definition the ability to 'know the self' (Wood et al., 2008), therefore, to be more self-aware. Furthermore, self-compassion was considered to be linked with authenticity in that authenticity is a positive way of relating to oneself (Wood et al., 2008) and therefore would be more conducive to well-being (e.g. Thomaes et al., 2017). Both of these suggestions were supported.

As already discussed, authenticity did not significantly mediate the relationship between social relatedness and happiness and mental distress once the other two mediators, self-awareness and self-compassion, were accounted for. One theoretical explanation might be that authenticity might in fact be a rather difficult thing for adolescents to navigate, given that being 'true to oneself' might at times override the developmentally relevant need to belong and fit in with one's peer group (see Berk, 2004; Harter, 2012). Perhaps the balancing between authenticity – being 'true to oneself', and social flexibility – the navigation between various social roles – is a complicated act for adolescents and might therefore not induce higher levels of mental health. This needs to be further investigated. The reason might also be statistical. Perhaps authenticity shared too much of the same variance together with the other two mediators to work in the whole model as its own significant mediator.

Harter (2012) particularly discussed the importance of an unconditional care for the adolescent, and the ability to engage in scaffolding with the adolescent. Scaffolding refers to the active engagement in conversation and perspective-giving with the adolescent – giving them insights into themselves and viewpoints to consider and reflect on, helping them in the process of finding coherence in their self-concept, i.e. authenticity (Harter, 2012). While the concept of social relatedness does not include scaffolding directly, it does explicate the inclusive, caring and accepting attitude towards the adolescent that can be a steppingstone for them to dare to be more themselves and behave in real-self ways (Harter, 2012; Harter et al., 1996; Ryan & Deci, 2018).

All these suggestions above are tentative, however, given that our whole model was not supported. Therefore, the links between self-processes during adolescence and mental health should be further investigated.

Limitations and future directions

One point that needs to be considered before dismissing the importance of authenticity is the way in which it was measured. The scale by Wood et al. (2008) was designed for adults, and therefore a new measure targeting the developmentally appropriate way in which adolescents understand and experience authenticity would be needed to further explore these relationships. Furthermore, while Harter (2012)

suggested that authenticity really begins to develop at around the age 17, our sample was mostly younger than that. Perhaps, therefore, an older adolescent sample would have shown up higher relationships between authenticity and positive mental health in the model.

Another limitation of this study was its cross-sectional nature. Developmental processes such as the sense of self (suggested as a part of adolescent 'personal growth') should ideally be studied with longitudinal designs. However, since our main aim of this study was to test a model of mediated relationships for the sense of self rather than any developmental trajectories as such, cross-sectional data was considered adequate for our purposes. In the future, however, longitudinal studies should be adopted.

Furthermore, the use of only self-report measures might have induced a common-method bias shrinking or inflating relationships in the model (Podsakoff et al., 2003). Future studies should use also other ways to measure desired variables in sense of self.

Conclusion

The suggested model for the positive sense of self in adolescence was partially supported. The total model if sense of self showed good model fit, and some of the direct and mediated relationships expected were also found. However, when looking at the whole model, the mediation between social relatedness and mental health via the suggested self-processes (self-awareness, self-compassion, and authenticity) was not supported. Therefore, we discuss how it is possible that while adolescents' sense of self is comprised of these self-processes suggested, its relation to mental health is not so clear-cut. Therefore, adolescents' sense of self might not be always 'positive' considering their mental health. However, we did find support that the relationship between social relatedness and authenticity was fully mediated by self-awareness and self-compassion, as expected. Therefore, it could be suggested that adolescents' sense of self could be comprised of a warm and inclusive social environment providing them with a sense of support and relatedness, in which the adolescent is more capable of engaging with their inner process, listen and learn to understand themselves (gain self-awareness), learn a warm and accepting attitude towards the self (self-compassion) and enhance in their capacities for higher authenticity, i.e. being true to themselves, and understanding of themselves. Authenticity seems to be strengthened by engaging in higher self-awareness and self-compassion during adolescence. However, the role that authenticity plays in the formation of adolescents' *positive* sense of self and mental health when the entire model is considered was unclear and should be further explored with perhaps an older adolescent sample.

In conclusion, we suggest that adolescent sense of self can be strengthened in an inclusive social environment whereby the adolescent can gain in their self-awareness and self-compassion, as well as authenticity.

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