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Changing ourselves: how does personality change relate to well-being and authenticity?

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Abstract

Change in personality is viewed in two contrasting ways. Sometimes it is seen as an indicator of psychopathology or inauthenticity, associated with reduced well-being. Yet the ability to change oneself is also viewed as a sign of positive self-development, a process of becoming more authentic, and associated with increased well-being. This meta-analysis sought to compare these two perspectives and determine whether personality change can contribute to a good life. Sixteen independent samples (24,000 participants) were analysed to test the relationships between traits change and authenticity, traits change and well-being, and values change and well-being. Trait change was positively related to authenticity, while values change was associated with increased well-being. Moderator analysis indicated that type of change (over role or time) did not influence the relationship between trait change and authenticity, nor did length of time over which change took place influence the personality change and well-being relationship. Including traits and values allows a more holistic understanding of personality change and demonstrates that personality change is not damaging to living well, having instead a minimally positive association with well-being and authenticity.

Keywords: personality change, traits, values, well-being, authenticity

Introduction

Consistency or stability in personality is often held to be both scientific fact and the key to mental health. The claim of researchers that personality is essentially stable after age 30 (McCrae & Costa, 1982) has entered the public consciousness and is repeated in blogs and magazines worldwide. Stability in personality is lauded as a desirable characteristic (Fleeson & Wilt, 2010) while personality change may be labelled as inauthentic and even seen as a sign that the individual is suffering from psychological ill-health (Joseph & Wood, 2010). Despite this, the research literature is clear that there is both stability and change in personality, across roles and over time (Ardelt, 2000).

This leaves the state of our understanding of personality change in something of a quandary: change is common and widespread yet it is not clear to what extent change in the personality system is favourable or detrimental to the individual. In this paper, the research evidence on this question is collated in meta-analyses of the relationship between personality change and key elements of living a 'good life': authenticity and well-being (Sutton, 2020).

Authenticity, which is sometimes considered a form of eudaimonic well-being (Smallenbroek et al., 2017) is associated with positive outcomes such as higher relationship satisfaction and job performance (Impett et al., 2012; van den Bosch & Taris, 2014), while subjective well-being is increasingly being used as a measure of economic success by employers and governments. Meta-analysis of studies on the relationship between personality change and well-being / authenticity will provide clarification to competing theoretical accounts of the role of personality change in wider life experience and a stronger foundation for further research in this area.

Personality

Personality can be defined as the pattern of mental functions, processes and characteristics that give rise to the ways people respond to their environment. An integrative model of personality aims to brings together different personality concepts and understand how they change and develop

(Fetvadjiev & He, 2019). One such model suggests that traits represent a first level of general consistencies in behaviour, thoughts and feelings; values represent a second level of characteristic adaptations that are more contextualised to time or role; and the final level is represented by the individual's integrative life story (McAdams & Pals, 2006). The first two levels, traits and values, are the focus of this study. While they are likely to share similar biological foundations (Fischer & Boer, 2015; Roccas et al., 2002) and there are systematic links between traits and values, the evidence is in favour of them being distinct constructs (Parks-Leduc et al., 2015) and thus worth investigating in parallel.

The Big Five has emerged as a consensus model for the first level of broad, universal consistencies in personality, and has enabled researchers to identify influences of personality on outcomes as diverse as annual salary (Spurk & Abele, 2011) and social well-being (Hill et al., 2012). At the second level, values are cognitive representations of what people consider important in life and their life goals. Values are motivational and used to guide voluntary behaviour, in contrast to traits which have a stronger influence on behaviour that is under less cognitive control (Roccas et al., 2002). Schwartz's model of human values has been verified across many cultures (Schwartz, 1992). It describes a circumplex of 10 values, with those opposite each other reflecting oppositional end goals while those adjacent to each other are more compatible. While the Big Five has become a standard for measuring traits, models of values besides Schwartz's model continue to be useful in the research literature. For example, models of values drawn from self-determination theory contrast intrinsic (personal growth, emotional intimacy) with extrinsic values (attractiveness, popularity) (Sheldon, 2005). Character strengths may also be viewed as values in that they represent abstract, desired end states and the popular Values-in-Action classification of strengths (Peterson & Seligman, 2004) rank-orders character strengths as other values models do.

Change in the personality system

There is strong evidence that personality, although defined in terms of consistencies in behaviours and thoughts, is not completely fixed over the lifetime or indeed across different social

roles. Personality change can be conceptualised and measured in several different ways (Mroczek et al., 2014). First, there is the context of the change: whether across time (a developmental trajectory) or across social roles (adaptation to a situation). Second, there is individual change vs population change. We review the evidence for developmental and situational change briefly here before turning to discuss the issue of individual and population change measures.

In terms of change over time, personality changes and develops in response to both genetic and environmental influences. The genetic influence on trait change seems to be strongest in childhood and the influence of environmental factors becomes stronger in adulthood, with similarities between people's development trajectories the result of engaging with the common life tasks of social living (Roberts et al., 2006). Similarly, there is significant value change over the lifespan and this change is consistent with levels of psychosocial development and changes in life circumstances (Gouveia et al., 2015). These age effects are dependent on the type of value, providing evidence that values serve specific functions and become more or less important to the individual during specific life events.

People are also able to engage in volitional personality change over time, that is, to set themselves goals for change in personality traits and achieve them, and this change is associated with higher well-being (Hudson & Fraley, 2016). Coaching for personality change is proving increasingly popular and there are early indications that trait changes are possible, can be maintained by suitably motivated individuals (L. S. Martin et al., 2014), and are associated with improved well-being (Massey-Abernathy & Robinson, 2019). Similarly, engaging in a values-change intervention results in changing of value priorities over time and again, improved well-being (Lekes et al., 2012).

In terms of situational change, there is a long-standing discussion over the extent to which healthy personality may also show change across different social roles. While it is widely acknowledged that some variation across roles is normal, the influence of this change on psychological adjustment and well-being is still debated. Some theorists have suggested that role

variation represents some kind of fragmentation of the self and is associated with reduced social and emotional adjustment (Donahue et al., 1993), while others suggest that variation is a sign of specialisation and flexibility and should therefore be associated with positive measures of psychological adjustment (Sutton, 2018).

Self-concept differentiation (SCD) is a term often used for the extent to which an individual's self-reported personality traits differ across roles and a meta-analysis has demonstrated that higher SCD is related to psychological maladjustment (Bleidorn & Ködding, 2013). However, many of the studies that investigate SCD use a method that involves asking participants to complete personality questionnaires for several social roles (e.g. friend, colleague) at the same time and suffer from some distinct drawbacks. First, there are issues related to data collection, for example, the unknown and likely confounding influence of cultural or role expectations on participants' responses when people are making direct serial comparisons (Sutton, 2018). Second, there are issues related to how SCD is calculated. For example, the relationship between SCD and well-being reverses direction when mean-level variance in personality traits is accounted for (Baird et al., 2006). Third, there is some confusion over definitions of how SCD relates to personality. For example, some studies measure SCD and the Big Five separately in order to attempt a comparison between SCD and personality (Donahue et al., 1993), indicating that SCD is not a personality measure.

To avoid these confounding issues, therefore, this meta-analysis includes only studies where role personality was measured on two separate occasions or in two separate contexts, not when participants completed several role-contextualised questionnaires at once. Using these more robust measures of personality change over social roles, the current study will be able to address the issue of personality change and psychological adjustment more closely.

As we have shown, personality can change over time and role, and there are different ways of capturing this change. First, change over time may be investigated in terms of average changes across the lifespan (or across social roles) as well as individual differences in those changes

(Roberts et al., 2006), that is, how an individual may differ from average changes. Further, these changes may be measured in two ways: in terms of absolute levels of change or changes in rank ordering (Schwaba & Bleidorn, 2018). For example, an individual might increase in conscientiousness between the ages of 20 and 40 but might not change in terms of the comparison with their cohort, staying within the bottom quartile because the whole cohort increases in conscientiousness. Alternatively, someone whose level of conscientiousness remains the same during this same time period might drop from the top to the bottom quartile as the whole cohort shows an average increase. Similarly, changes across situations (i.e. in different social roles) can be captured in terms of absolute change or rank-order change. Rank-order change is valuable for identifying how an individual may differ from the average direction of change (Asendorpf, 2021). But it is less useful when we wish to associate degree of change in an individual with another outcome such as authenticity or well-being. In this study, therefore, we focus exclusively on the association between individual changes in traits and values and the related outcomes.

The view of personality change as a normal part of the maturation process or as a desirable end goal of self-development stands in stark contrast to a view of personality change as indicative of psychological ill-health or maladjustment. Given the extensive research indicating that personality change over time and roles is not only possible but widespread and, in some cases, even desirable, it is important to directly test the two contrasting theoretical points of view on how personality change affects the rest of the individual's life. We turn then, to consider two indicators of a 'good' life: authenticity and well-being.

Authenticity

Authenticity is defined in two different ways in psychology, underpinned by philosophical distinctions in what it means to be true to oneself (Kernis & Goldman, 2006; Sheldon et al., 1997). The first suggests that an authentic person is more consistent over time or across situations. The second holds that an authentic person has coherence or congruence in their self-narrative.

Rooted in the essentialist philosophical approach, the first approach to authenticity suggests that an authentic person is engaged in an ongoing process of self-discovery, uncovering the 'essential' self and acting consistently with that self. If authenticity is indeed due to greater consistency in personality, we should find that an individual who experiences inconsistency or change in personality should also report reduced authenticity.

Existentialist philosophy in contrast, suggests that authenticity is a process of self-creation, making conscious decisions about how to live and owning those decisions (Guignon, 2002). Authenticity in this framework is a process of developing coherence or congruence in the self-narrative and can be measured as the extent to which a person feels their behaviour is personally expressive or self-determined. Consequently, in this definition, authenticity does not imply an unchangeable self-concept (Sheldon, 2013). Instead, self-development and personality change might be expected to be associated with a greater sense of authenticity.

Research has consistently demonstrated that higher authenticity is related to higher extraversion, agreeableness, conscientiousness and openness, as well as lower neuroticism (e.g. Wood et al., 2008). This raises the question of whether we should expect that an increase in scores on those traits would result in higher authenticity or whether this change in personality would instead result in the individual feeling less authentic due to being less consistent. Similarly, acting in accordance with one's values or expressing those values, is not only used as a definition of authentic behaviour (Newman, 2019) but is also shown to be associated with higher levels of authenticity even when it results in unpleasant consequences (Smallenbroek et al., 2017).

Indeed, evidence indicates that people feel authentic independently of personality consistency (Reinecke & Trepte, 2014; Sutton, 2018) and may use seemingly contradictory traits to describe themselves, especially in East Asian cultures (Boucher, 2011). The important element in authenticity is a sense of coherence in the narrative we tell about ourselves and is reflected in several different theories of the self, including the humanistic tradition (Rogers, 1961) and self-determination theory (Deci & Ryan, 1980). This definition of authenticity as a subjective

experience of feeling true to oneself allows for change in personality across time and contexts, with behaviour only being ‘inauthentic’ if experienced as such by the individual.

Therefore, personality change should be associated with reduced authenticity if change is a sign of acting inconsistently with one’s essential self. In contrast, if authenticity does not imply an unchangeable self-concept (Sheldon, 2013) and the subjective experience of feeling true to oneself allows for change in personality across time and contexts, behaviour is only ‘inauthentic’ if experienced as such by the individual (Sutton, 2018). In this case, we would expect personality change to be either unassociated or positively associated with authenticity.

Well-being

Well-being is moderately strongly correlated with authenticity (Sutton, 2020) and authenticity is sometimes conceptualised as an element of eudaimonic well-being (Smallenbroek et al., 2017). Although distinct, authenticity and well-being are clearly key elements of the individual’s experience of a good life. Well-being is a broad concept capturing an individual’s global evaluation of how well their life is going. It is perhaps best understood as an ‘umbrella term’ for a range of more specifically defined terms and models (Linton et al., 2016) such as subjective or psychological well-being.

Subjective well-being consists of cognitive and affective elements (Diener, 1984) and is often measured in terms of positive / negative affect and satisfaction with life. Psychological well-being, on the other hand, may be defined in terms of healthy psychological functioning, including several more specific dimensions such as purpose in life and positive relations with others (Ryff & Keyes, 1995). While distinctions have been drawn between these two approaches to well-being and there is empirical evidence that they represent two different latent constructs, they are also highly correlated and jointly present in most people (Joseph & Wood, 2010), supporting the notion of well-being as a broad, overarching concept.

Well-being is an increasingly important concept on the global stage. For example, the OECD’s Better Life Initiative aims to understand the drivers of well-being and includes well-being

in its measures of progress (OECD, 2021). Similarly, the psychological research on well-being has grown exponentially over the past decades, exploring models and measures, antecedents and consequences in many different settings. The relationship of personality with well-being is well established (DeNeve & Cooper, 1998), at least from a cross-sectional point of view. In addition, both traits and values have a bidirectional relationship with well-being, though a recent longitudinal analysis indicated that traits predict well-being more strongly than well-being predicts traits, while the opposite is true of values (Fetvadjiev & He, 2019). What is less well understood, as noted above, is how personality *change* might be related to well-being and the experience of a good life.

The Present Study

The impact of personality change has been theorised in conflicting ways in past literature. It is theorised to have either a negative association with authenticity, representing a lack of a consistent self, or a positive association as it represents an ongoing process of authentic self-creation. Similarly, personality change is hypothesised to have both negative and positive relationships with well-being: being viewed in terms of a fragmentation of the self that results in mental ill health or as a natural maturation or goal-directed process and associated with increased well-being.

In order to address these contrasting conceptualisations, this study aims to summarise the findings on personality change, defined in terms of changes in traits or values over time or across roles, and its relationship to authenticity and well-being. If the fragmentation perspective is accurate, we would expect to find that personality change is associated with lower well-being / authenticity. In contrast, if personality change represents self-development and growth, we would expect that personality change is associated with higher well-being / authenticity.

Method

The full search strategy and exclusion criteria are summarised in the PRISMA diagrams (Figures 1.1 and 1.2).

--- Figure 1.1 and 1.2 here ---

Literature search

A comprehensive search for relevant studies was performed using several strategies. First, electronic databases were searched using the following basic search terms in all fields. Traits included the terms: personality / trait / role + consistency / congruence / change / test-retest; role / situational + personality / trait; self-concept + consistency / congruence. Values included the terms: value + consistency / change / test-retest / congruence; role / situational + value. Well-being and authenticity search terms included alternate spellings (e.g. wellbeing) and wildcards (e.g. authentic*) as appropriate for each database. The following databases were searched: PsycInfo, Web of Science and EBSCOhost (searching Academic Search Complete, Business Source Premier and Psychological/ Behavioural Sciences).

Second, several steps were taken to identify grey / unpublished data: searching thesis databases (EThOS and WorldCatDissertations), using Google Scholar, and making contact with authors of relevant papers to ask about relevant unpublished studies they may have conducted. For the thesis and Google Scholar searches, hits were so numerous (ranging from 700 to multiple 1000s) that an initial screening process was undertaken before exporting results for further evaluation. This involved sorting results by relevance then reading the title and abstract of each hit. When 20 hits in a row had been excluded without a relevant study being found, the search was stopped.

Finally, reference lists of papers that met the inclusion criteria were examined for relevant studies.

Inclusion and exclusion criteria

After exclusion of duplicates from the citation list, the title and abstract for each of the remaining citations were screened against the first set of exclusion criteria. Citations were excluded if they were not quantitative, were not available in English or German, or did not report a measure of the relevant variables. Full reports were downloaded where possible. If no access was available,

the paper was requested directly from the authors of the study. Only six reports remained unavailable.

This resulted in a list of 152 traits citations and 77 values citations for which the full reports were obtained and the content assessed for eligibility. Where papers reported more than one study, each study was evaluated individually. At this stage, the final exclusion criteria were applied and studies were excluded on the basis of:

1. Inadequate measures of variables (described in detail below)
2. Data unavailable – many studies did not directly report the effect sizes needed for these meta-analyses. Data were requested from authors and where authors were uncontactable or unable to provide the relevant data, the study was excluded.
3. Duplicate sample.

Coding procedure

The following data were extracted from each study: sample descriptors (*N*, mean age, percentage female in the sample, and country of sample) variable measures and models, and effect sizes. In addition, brief qualitative descriptors of the sample were collected, subsequently reduced to four broad categories of school pupils, university students, employees and adults (not otherwise specified). Where a sample included, for example, university students and employees, it was coded simply as adults. Basic study design was also recorded, including what kind of change was assessed, whether that be change in role, experimental manipulation or time period between measurements. Data extraction was conducted by the author and a research assistant, with any discrepancies checked and resolved by consensus.

Measures

To be included in this meta-analysis, studies had to report at least one measure of traits or values *change*, whether that was change over time or change between roles, combined with at least one measure of well-being or authenticity.

Personality change

Personality change is defined as a change in score on personality traits or values, either between different roles or over time. A strict definition of change between roles was adopted, whereby participants had to be in different roles at the time of survey completion or undergo experimental manipulation of the role. This was to avoid measurement issues with methodologies associated with self-concept differentiation discussed elsewhere (Sutton, 2018). Traits were most commonly measured on the Big Five model, with only one paper reporting a different measure of trait change: an identity integration measure after experimental manipulation. The Schwartz model of human values and its derivative measures were the most commonly used for values change, with the Values-in-Action survey and Aspiration Index (based on SDT) also being used.

Authenticity

Authenticity is defined in this review as individual subjective authenticity. Following Sutton (2020), studies were included if they contained an established measure of subjective authenticity or clear evaluation by single or multiple items of whether 'this feels like an authentic part of me'. Studies were excluded if authenticity was measured in terms of consistency across roles or situations, as other-report, or as a measure of emotional dissonance.

Three different measures of authenticity were used in the studies included in this meta-analysis. First, the Authenticity measure (Sheldon et al., 1997) is a 5 item scale measures subjective feeling of authenticity and sense of autonomy, based on a humanistic and self-determination model of authenticity. Second, a measure of inauthenticity, conceptualised in terms of a dimension of job-related well-being in the original study (Erickson & Ritter, 2001), included items to measure the extent to which a person feels out of touch with or unable to be themselves. This reflects a similar humanistic conceptualisation of authenticity as the Sheldon et al. scale. And finally, adaptations of Wood et al.'s (2008) Authenticity Scale were also included. This scale is based on a model of authenticity proposed by Carl Rogers and consists of three subscales (self-alienation, authentic life,

acceptance of external influence). All scores were reverse coded where necessary to ensure that higher scores meant higher authenticity.

For studies measuring change over time, the final time-point measure of authenticity was extracted. That is, the change in personality from time 1 to time 2 was associated with authenticity at time 2. For studies measuring between-role change, authenticity was measured either once as an overall variable or as an average across all roles and both of these approaches were considered relevant.

Well-being

In this meta-analysis, well-being is defined as a holistic evaluation of one's quality of life and a distinction is drawn between subjective and psychological well-being. Diener's model of subjective well-being consists of affective and cognitive elements: affect balance (experience of positive and negative emotions) plus an evaluation of how satisfactory one's life is. Measures coded as SWB in this analysis utilised forms of the Satisfaction with Life Scale (Diener et al., 1985) and affect balance as measured, for example, with the PANAS (Watson & Clark, 1994).

Psychological well-being is defined as broader, often multidimensional, models of well-being than SWB including an evaluation of psychological functioning and mental health. The following measures were included in this analysis: Psychological Well-being (Ryff & Keyes, 1995) including short forms of this measure; Systemic Therapy Inventory of Change (STIC) using the Individual Problems and Strengths subscale which measures overall individual mental health (Pinsof et al., 2009) and the Authentic Happiness Inventory (AHI) (Peterson, 2005) which measures pleasure, engagement and meaning in life. Where well-being was measured as stress, ill health or symptoms of anxiety or depression, the sample was excluded.

For studies measuring change over time, the final time-point measure of authenticity was extracted. That is, the change in personality from time 1 to time 2 was associated with authenticity at time 2. For studies measuring between-role change, authenticity was measured either once as an

overall variable or as an average across all roles and both of these approaches were considered relevant.

Effect sizes

Finally, the effect size of the relationship between variables was extracted. Thus, for studies of change over time, the effect size represents the relationship of change with final authenticity/ well-being. For studies of change across roles, the effect size represents the relationship of personality change with overall authenticity/well-being.

Effect sizes were recorded for each independent sample. If the paper drew on several different samples, they were coded separately using the same codes as in the paper (e.g. Study 1 = 1) in order to ensure transparency of results.

Because this meta-analysis examines the relationship between continuous variables, correlation coefficients (*r*) were used to summarise the relationship between a) traits / values change and well-being and b) traits / values change and authenticity. If relevant effect sizes could not be extracted directly from the papers, they were requested directly from the authors. Of the 31 authors contacted, 9 responded with the needed data, 3 suggested accessing the original panel data, 11 were not contactable or did not respond, and 7 no longer had access to the data or were unable to provide the needed statistics. In one case, beta coefficients were available from regression analyses but as there is significant debate over the estimation of effect sizes from beta values (Roth et al., 2018), this study was ultimately excluded. In some cases, effect sizes were reported for subscales but not for the overall score. In these cases, the overall effect size was calculated using the mean effect size of the relevant subscales, as recommended by Borenstein et al (2009). If a study measured both SWB and PWB, both effect sizes were recorded and, unless otherwise noted in the results, the mean effect size was used in the analysis.

To provide a high-level overview of change in traits or change in values, individual trait or value scores were combined into overall scores. Ideally, we would prefer to be able to indicate the relationship between directional personality change and well-being / authenticity. However, this is

only possible where there is a single, consistent measurement model, such as with the Big Five for personality traits. Thus, for traits, effect sizes were coded so that a positive score represented an increase in extraversion, agreeableness, conscientiousness, openness and emotional stability (i.e. a decrease in neuroticism), a negative score indicated a reduction in levels of these traits and a score closer to zero indicated no change.

Because values measurement models were more diverse than trait measures and did not have a comparable consensus model, we were not able to calculate similar directional effects. For example, a change in a specific value from the Schwartz model could not be sensibly combined with a change in one of the aspirations categories from the Aspirations Index. Thus, change in values scores does not imply an increase or decrease in particular values.

Data analysis

Analysis was conducted using Comprehensive Meta-Analysis software (CMA version 3). To account for sample size, effect sizes were converted to Fisher's Z then transformed back into correlation coefficients. Meta-analyses were conducted using the random-effects model because of the wide range of sample populations and methods employed in these studies. This model assumes that variability in the effect sizes of different studies represents real variability rather than error and allows generalisation to the wider population. The exception to this was the testing of categorical moderators which used a mixed effects model for subgroup analysis, as recommended by Borenstein et al (2009). The mixed effects analysis uses random effects to combine studies within the group and a fixed effects model to combine groups and give the overall effect. Categorical moderators were assessed by comparison of subgroups and meta-regression used to evaluate continuous moderators.

Results

A total of 13 datasets were included in the analyses. From the 7 papers included in the traits change meta-analysis, 5 independent samples were extracted for authenticity and 5 for well-being

(Table 1.1). The 6 datasets included in the values change meta-analysis resulted in 6 independent samples for well-being and none for authenticity (Table 1.2).

---Table 1.1 and 1.2 here ----

Outliers and large samples

Meta-analyses can be heavily influenced by outliers and large samples. Helmus et al (2013) recommend that the weight of the largest sample should be reduced to no more than 150% of the second largest. In the traits change and well-being studies, two large studies were identified, so their sample sizes were reduced to 150% of the next largest: Soto 2015 (adjusted N = 558) and MIDUS (adjusted N = 372). None of the traits change and authenticity samples needed adjustment. In the values change and well-being samples, two large studies were adjusted: Gander unpub (adjusted N = 545) and Gander 2020 (adjusted N = 363). The following analyses are based on these adjusted weightings.

Studies were considered outliers if they met three criteria (Hanson & Bussière, 1998): the overall Q was significant, the study had the most extreme highest or lowest effect size, and it accounted for more than 50% of the overall variability. Two outliers were detected in the traits change and well-being samples (the MIDUS and Soto 2015 samples) and one outlier in the values change and well-being samples (the Hope 2014 sample) but none for the traits change and authenticity samples. Because identifying outliers is an imprecise process, results are reported here with and without the outliers and interpretations are based on the findings without (Helmus et al., 2013).

Analysis of Hetereogeneity

The variability across traits change samples was significant for both authenticity (Q = 74.38, df = 4, p < 0.001) and well-being (Q = 31.57, df = 4, p < 0.001) and with I^2 values of 95% and 87% respectively, there are likely to be variables which moderate the overall effect size. Heterogeneity of values change effect sizes was also significant, though less pronounced: Q = 11.82, df = 5, p = 0.04 and I^2 value of 58%.

Overall effect size

Forest plots for traits change and well-being (Figure 2.1), traits change and authenticity (Figure 2.2) and values change and well-being (Figure 2.3) show the effect size and confidence intervals for each study as well as the overall effect size.

---Figure 2.1 – 2.3 here ---

Although the fixed effect model for trait change showed a significant positive relationship with authenticity, this relationship was not significant in the random effects model (r = .27, 95% CI [-.02, .51], k = 5, N = 881). Similarly, there was no significant relationship between traits change and well-being, either with (r = .06, 95% CI [-.01, .22), k = 5, N = 1,416) or without the outliers (r = .06, 95% CI [-.03, .15], k = 3, N = 486).

Values change showed a significant positive relationship with well-being in the fixed effects model but this relationship, although still trending positive, was just above the significance cut-off in the random effects model (r = .07, 95% CI [0, .14), k = 6, N = 1,789). The relationship was further reduced when the outlier was removed (r = .04, 95% CI [-.01, .09], k = 5, N = 1,593).

Moderator analysis

Because both moderator analysis and the random effects model have very low power, the fixed effects model was used here. The categorical variable representing type of change (between role or over time) did not significantly moderate the relationship between trait change and authenticity ($Q_{between}$ = 1.27, df = 1, p = .26).

Studies on traits / values change and well-being included change over time, so length of time between measurement points was investigated as a moderator. First, because a small difference in effect size between traits / values change and well-being was found in the main meta-analyses, a comparison analysis was conducted. The difference between change in traits and change in values was not significant ($Q_{between}$ = 1.39, df = 1, p > .05) so trait change and values change were

combined for this analysis in order to make best use of the limited data. Two large studies were identified and their weights reduced to be 150% of the next largest: Soto 2015 (adjusted N = 2,617) and MIDUS (adjusted N = 1,745) and the MIDUS dataset was identified as an outlier. Using maximum likelihood (ML) meta-regression (Borenstein et al., 2015), the personality change and well-being relationship was not significantly moderated by the length of time over which change took place, both with (Q_{model} = 3.23, df = 1, p = 0.07, k = 9) and without the outlier (Q_{model} = .52, df = 1, $p > 0.05$, k = 8).

Publication bias

Meta-analysis may overestimate real effect sizes because studies with larger effect sizes (especially if they have a small sample) are more likely to be published. Several tests of publication bias were conducted to take account of their different strengths and weaknesses (Field & Gillett, 2010). Datasets that did not originate from published papers were excluded from this analysis.

The funnel plot for change and well-being was symmetrical, indicating that smaller studies are no more likely to report a high correlation between personality change and well-being than the larger studies. This was confirmed by Begg and Mazumdar's rank correlation test, which was not significant, and the Trim and Fill method which estimated 0 missing studies with smaller effect sizes. However, the trim and fill method did estimate 5 missing studies to the right of the mean, indicating that there may be a publication bias against studies reporting higher correlations between change and well-being. Cumulative analysis by publication year showed no evidence of drift due to publication year and there was no evidence of drift in precision.

For the traits and authenticity studies, the funnel plot was symmetrical, indicating that smaller studies are no more likely to report a high correlation between authenticity and engagement than the larger studies. This was again confirmed by Begg and Mazumdar's rank correlation test, which was not significant. Similarly, the Trim and Fill method estimated 0 missing studies. Cumulative analysis by publication year also showed no evidence of drift due to publication year. Cumulative analysis by sample size showed no drift in precision.

Overall, these findings indicate that the impact of publication bias in these meta-analyses is trivial though there may be a slight bias against studies reporting higher correlations between personality change and well-being.

Discussion

This meta-analysis examined the relationship of personality change, conceptualised in terms of both traits and values, with authenticity and well-being. Directional trait change, that is, increases in the Big Five traits, showed a small to medium positive relationship with authenticity in the fixed effect model, though the significance reduced in the random effects model. As suggested in the past (Sutton, 2018), these findings caution against defining or measuring the subjective experience of authenticity in terms of personality consistency over time or roles as change is here shown to be associated with higher rather than lower authenticity.

Overall, there was no strong relationship between directional trait change and well-being, in contrast to findings from cohort studies that show an association between trait change and increased social well-being (Hill et al., 2012) and PWB (Hounkpatin et al., 2015). As a representation of maturational processes over nine to ten years, cohort studies suggest there is a corresponding development of traits and well-being in adulthood. Against this backdrop of general increases in trait scores and well-being over the long-term, this meta-analysis indicates that changes in trait scores over the shorter term and in different roles, are not associated with subsequent well-being levels.

Values change had a small positive relationship with well-being, though this weakened in the random effects model and when the outlier was excluded. Previous work has found that the more an individual's values align with the values of their employing organisation or wider society, the better their well-being. (Kristof-Brown et al., 2005). This analysis demonstrates that even without measuring this fit, there is a relationship between values change and well-being. That people are able to actively change value priorities has been demonstrated in one of the studies included in this meta-analysis (Lekes et al., 2012). Whether people change their values in order to

experience better fit, and hence better well-being, is an interesting question. The maintenance of well-being could be a driver of values change yet age changes in values seem to reflect a general maturational trend and be unaffected by fit with the individual's culture (Fung et al., 2016). The studies included in this meta-analysis considered fairly short-term change (from 3 weeks to 3.5 years) but do indicate that values change may be beneficial to well-being and is certainly not harmful. It seems that, similarly to trait change, values change is a natural developmental process that can also be undertaken consciously, though it should be noted that traits tend to be more stable over time than values (Fetvadjiev & He, 2019). It awaits further research to determine the influence of changes in specific directions or for specific values.

When researching personality change, we face a challenge of considering what that change might mean. Does a change in traits, for example, indicate that someone's personality actually changed over time or in different contexts, or does it imply that the individual is unreliable in their reporting? There is significant evidence that self- and other-reports of a target's personality do not significantly differ (Kim et al., 2019) and we can therefore be confident that, on the whole, changes in personality scores are not due to unreliable self-reports.

Finally, there was minimal bias in publication of studies in this area. It is possible that fewer studies are published demonstrating positive rather than negative relationships between personality change and well-being, perhaps indicating continuing bias against the idea that personality change can be beneficial rather than a sign of psychological ill-health or reduced functioning. It is hoped that the findings of this meta-analysis, particularly the need for further studies to clarify the moderating effects, may lead to a wider range of findings being published in this area.

Theoretical and practical implications

This meta-analysis demonstrates that personality change in and of itself is clearly not a negative experience. Change has a minimally positive association with well-being and a small to medium positive association with authenticity. Indeed, this shows that inflexibility or stagnation of personality is associated with a lower sense of authenticity. In line with SDT and humanistic

psychology theory, we found that personality change is associated with positive well-being and authenticity. The humanistic tradition in psychology holds that development to enhance congruence is a process of becoming more authentic, and that this is key to well-being. Similarly, the underlying postulate of self-determination theory is that humans are growth-oriented and seek greater integration both within themselves and with their social environments (Deci & Ryan, 2000). Personality change in this model is not seen as a negative but instead would be expected as part of this natural growth. SDT further suggests that this growth or change will be associated with an increase in authenticity and well-being, as was found here.

The use of both values and traits as measures of personality has allowed a more holistic understanding of personality change and its relationship with well-being, taking the discussion beyond change in traits to include elements of personality that are more closely tied to motivations. As Roccas et al (2002, p. 799) note 'Traits refer to what people are like, values to what people consider important' and both are needed to understand personality. Interestingly, the difference between traits and values change and well-being did not reach significance, which implies that neither type of personality change is more or less beneficial. Meta-analyses can only provide high-level summaries of the data and it is clear from these results that the specific effects of personality will be more closely tied to the specific situations.

Individuals who are asked about their self-concept over several roles simultaneously report higher well-being when their self-concepts are consistent (Bleidorn & Ködding, 2013), yet when we separate those measurements out over time or context, we do not find the same relationship. We recommend therefore, that the negative relationship between SCD and psychological adjustment should not be taken to indicate that personality flexibility or change is maladaptive. Instead, self-concept differentiation should be investigated as a separate concept to trait or values change. A sense of consistency is clearly important to a sense of well-being but further work is needed to identify how the 'divided self' in SCD differs from 'change in personality' as conceptualised in this meta-analysis and how they both contribute to psychological adjustment. The possibility of a

positive association between trait change and an increased sense of authenticity demonstrates that trait consistency is not essential to authenticity. When authenticity is the variable under study, therefore, it is important to use a verified measure of experienced authenticity rather than using trait consistency as a proxy.

Trait change as a sign of fragmentation and psychological ill-health is not supported by this meta-analysis, suggesting that while trait change might not be promoted as a way of directly enhancing well-being, interventions aimed at personality trait development may be undertaken for other aims, without concern that they will negatively impact well-being.

Limitations and future research

The number of studies that met the inclusion criteria was fairly small and therefore the relationship between values change and authenticity could not be evaluated and moderator analysis was substantially limited. For example, it was not possible to adequately compare values change over time to change due to social role. This could be addressed in future experimental research by changing participant felt-authenticity in different roles, for example by manipulating participant identity-integration (Ebrahimi et al., 2020). Additionally, the development of interventions seeking to improve authenticity over the longer term, for example by guided recall of specific memories (Baldwin et al., 2015; Sutton & Render, 2021), would enable the further exploration of the personality change-authenticity relationship over time.

Differences in methodology and measures between studies meant that it was not possible to analyse the results at a finer level of detail than overall traits or values models. For example, although data on individual Big Five traits was available for the majority of the relevant studies, the small sample size meant that repeated analyses on the same samples (for example, testing change in a single trait) was counter-indicated. Future research could examine traits and values outside the models included in this meta-analysis, such as those particularly relevant to older adults. While trait consistency seems to increase between the ages of 50 and 70 (Roberts & DelVecchio, 2000), there is significant evidence of both adaptive trait change at the individual and group level, and of a

decrease in certain personality disorders (Debast et al., 2014). It is probable, therefore, that the relationship of personality change to well-being and authenticity could change over the lifespan and differ dependent on the personality measure. The relationship between personality traits and well-being is considered to be fairly strong (Anglim et al., 2020) and there is therefore scope for a more fine-grained investigation of individual traits and facets.

Additionally, it is possible that we face floor and ceiling effects in terms of the amount of personality change that can be measured. For example, the Big Five traits are known to be normally distributed in the population, meaning that there are relatively few individuals with extreme scores. Yet it is precisely those people with extreme scores who have the potential for most change: someone who is extremely low on extraversion could theoretically increase in that trait much more than someone close to the mean. Given that the range of change in trait or values scores is limited for most people, there may well be personality change that is not being captured in these measures. This study addresses only the first two levels of an integrative personality model (McAdams & Pals, 2006), namely general consistencies and characteristic adaptations. The third level, one's ongoing life story, may be less subject to floor and ceiling effects due to its inherent individual uniqueness. Subsequent studies to evaluate the relationship between changes in personality at this level and the concepts of well-being and authenticity would be a valuable addition to this work.

As noted in the Introduction, there are several ways of conceptualising and measuring personality change and we focused here on absolute level change rather than rank ordering. The rank ordering approach may well be a useful avenue for future research, especially on values change as values theories often note that values may be in conflict with one another and subject to individual prioritisation (Ros et al., 1999).

A significant limitation in the data collection was present because the main questions of this analysis were not addressed directly in the majority of the papers that met the inclusion criteria. This resulted in the need to contact authors of papers to request the data and / or effect sizes and only a third were able to provide the needed data. The move toward open data in psychology will

help to provide significant improvements in the quality of future meta-analyses as researchers will be able to access the data directly. Related to this limitation in the data, it should be noted that three of the five datasets related to authenticity were from the same paper.

Conclusion

Not only *can* personality change over time and roles, but these changes may be positively related to authenticity and well-being. Personality traits can change as part of a natural maturation process and individuals may engage in targeted trait change for their own self-development. This meta-analysis indicates that there is no need for concern that this kind of change might result in reduced well-being and indeed the change may even contribute to a greater sense of authenticity. Change in values, too, has positive implications, being minimally associated with higher well-being. Overall, the studies summarised here demonstrate that personality change is not detrimental and can in fact have positive influences on both well-being and authenticity.

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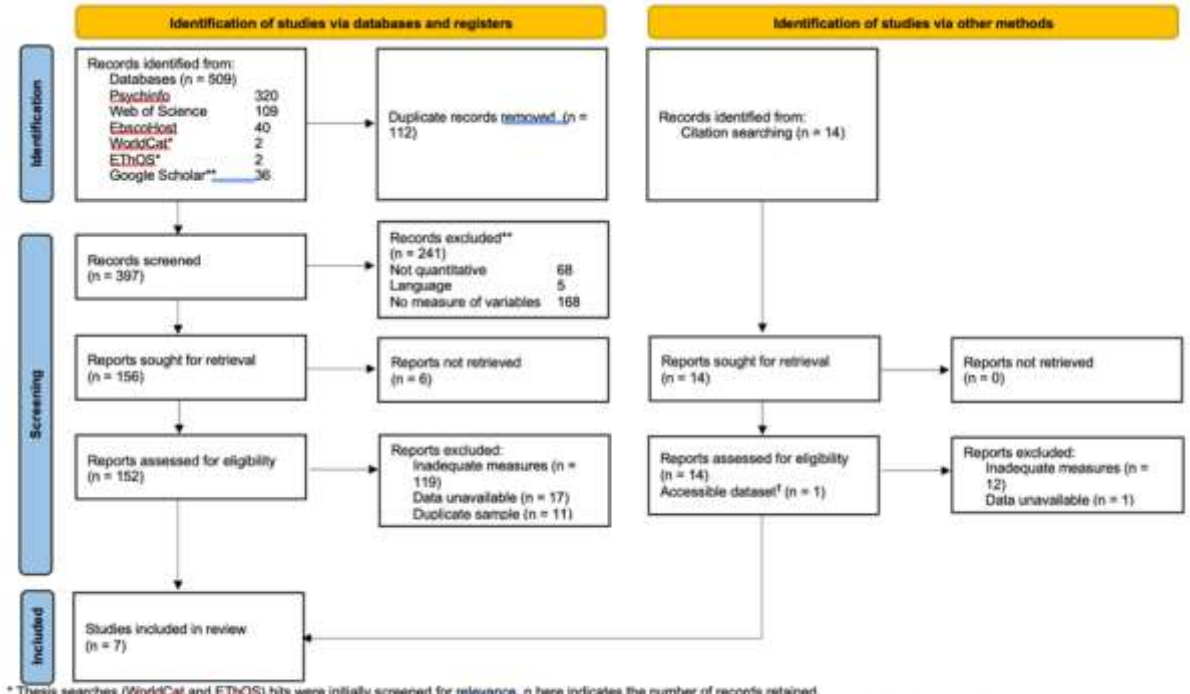
Table 1.1: Studies included in the meta-analysis (trait change)

Study	**Outcome**	**N**	**Personality**	**Type of change**	**% female**	**Mean age**	**sample type**	**Country**
Ebrahimi et al (2020) study 1	Authenticity	291	Role personality integration	Experimental manipulation	50.9	36.5	employees	USA
Ebrahimi et al (2020) study 3	Authenticity	142	Role personality integration	Experimental manipulation	66.9	27	students	USA
Ebrahimi et al (2020) study 4	Authenticity	150	Role personality integration	Experimental manipulation	48.7	39	employees	USA
English & Chen (2011)	Authenticity	107	Big Five	Time (34 days)	78	-	students	USA
Sutton (2018)	Authenticity and PWB	191	Big Five	Role (work/home)	69	36.8	employees	UK
Adler (2012)	PWB	47	Big Five	Time (3 months)	70.2	-	adults	USA
MIDUS datasets[1,2]	SWB	3817	Big Five	Time (10 years)	53.3	55.4	adults	USA
Schnitker (2012)	SWB	248	Big Five	Time (4 weeks)	69.1	-	university	USA
Soto (2015)	SWB	16367	Big Five	4 years	52.1	40.4	adults	Australia

Note. [1] Based on papers by Human et al. (2013) and Martin and Keyes (2015), MIDUS 1 and 2 datasets (Brim et al., 2020; Ryff et al., 2017) were utilised directly to calculate effects sizes.

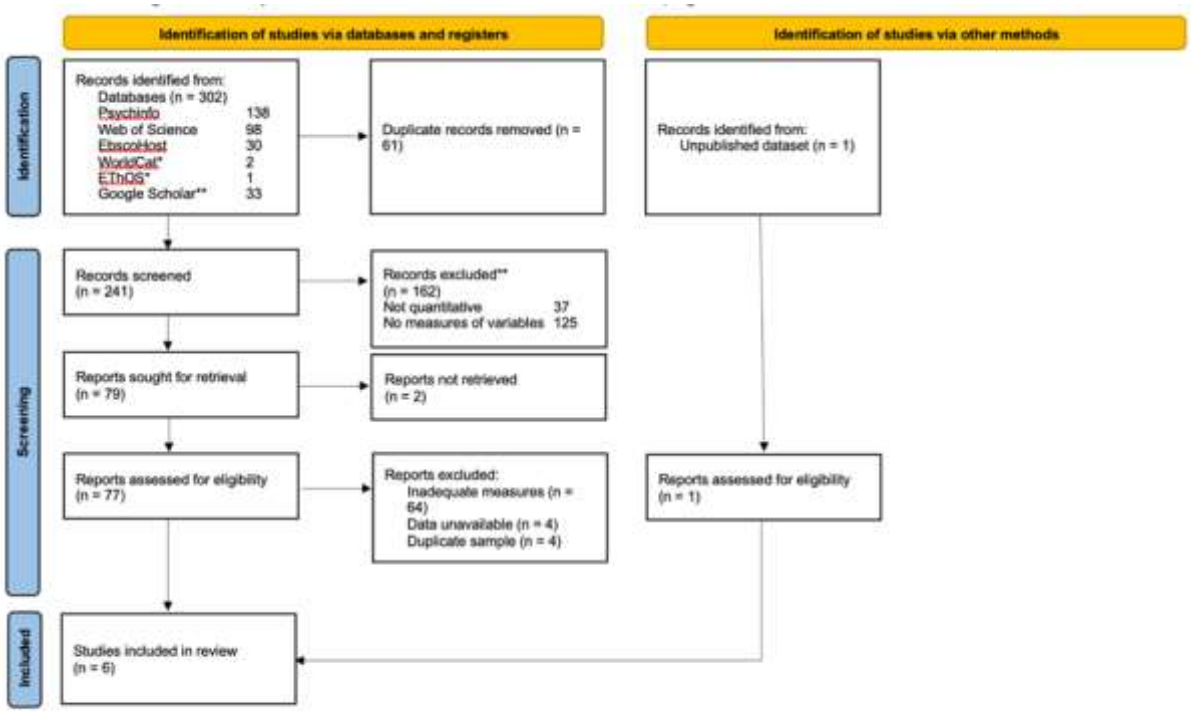
Table 1.2: Studies included in the meta-analysis (values)

Study name	**Outcome**	**N**	**Model of predictor**	**Time (years)**	**% female**	**Mean age**	**sample**	**Country**
Ng & Ye (2016)	SWB	242	Schwartz values	0.25	75.6	18	students	Hong Kong
Williams et al (2015)	SWB	225	Schwartz values	1	52	17	school pupils	Australia
Hope et al (2014)	SWB and PWB	196	Values: Aspiration Index	0.58	-	20.2	students	Canada
Sheldon (2005)	PWB	109	Values: Aspiration Index	3.7	83.4	-	students	USA
Gander (2020)	SWB	601	VIA inventory of strengths	3.5	96.7	44	adults	Germany, Austria, Switzerland
Gander (unpub)	SWB	1163	VIA inventory of strengths	0.06	82.3	39.1	adults	Germany, Austria, Switzerland



* Thesis searches (WorldCat and EThOS) hits were initially screened for relevance, n here indicates the number of records retained.
** Google Scholar: searches identified 1000s of hits. The first 60 from each search were screened for relevance, n here indicates the number of records retained.
† Two relevant papers used the publicly accessible MIDUS dataset, authors contacted about the effect sizes in these papers suggested using the raw data directly.

Figure 1.1 PRISMA diagram for personality change and well-being / authenticity search



* Thesis searches (WorldCat and EThOS): hits were initially screened for relevance, n here indicates the number of records retained.
** Google Scholar: searches identified 1000s of hits. The first 60 from each search were screened for relevance, n here indicates the number of records retained.

Figure 1.2 PRISMA diagram for values change and well-being / authenticity search

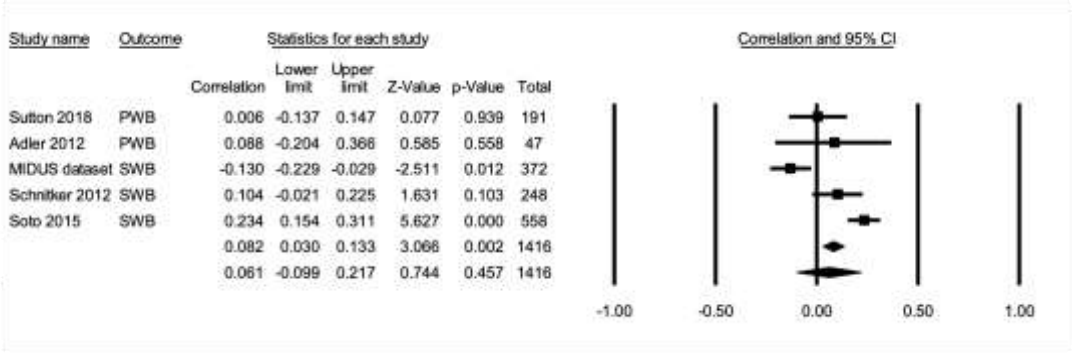


Figure 2.1 Forest plot of trait change and well-being effect sizes (fixed and random models)

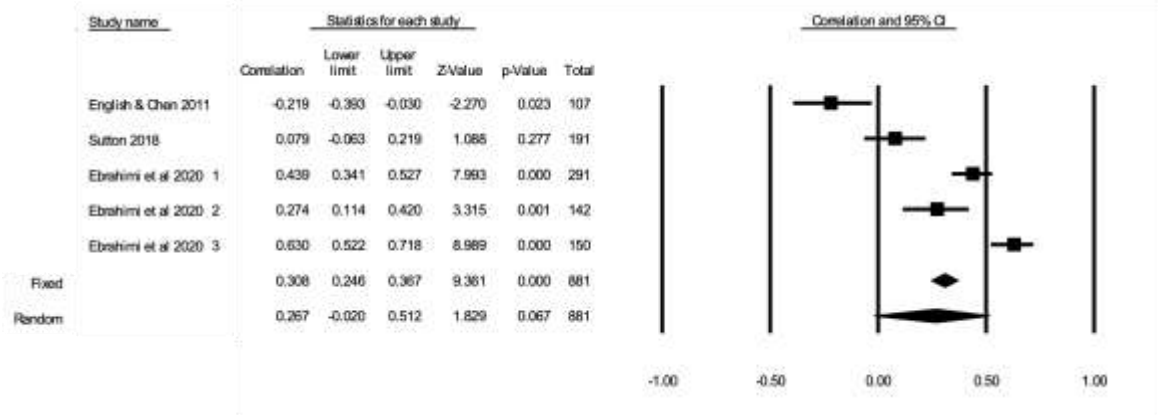


Figure 2.2 Forest plot of trait change and authenticity effect sizes (fixed and random models)

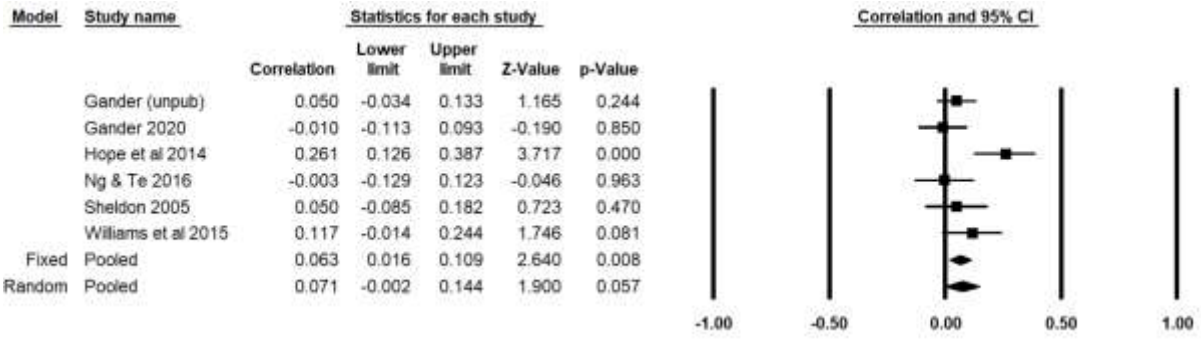


Figure 2.3 Forest plot of values change and well-being effect sizes (fixed and random models)