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Living the good life: A meta-analysis of authenticity, well-being and engagement

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ABSTRACT

The 'good life' is described by philosophers and psychologists as consisting of authentic expression of self, a sense of well-being, and active engagement in life and work. Well-being and employee engagement are outcomes of value in themselves to work organisations, but also improve performance and reduce turnover. This meta-analysis tests the relationships between authenticity and well-being, and authenticity and engagement, investigating the impact of several moderators: age, gender, sample type, conceptual measure and individualism-collectivism. Systematic searches identified 75 studies (well-being = 65, engagement = 10) with a total $N = 36,533$. Analysis revealed a positive relationship between authenticity and well-being ($r = 0.40$) and between authenticity and engagement ($r = 0.37$). Individualism and type of measure were significant moderators, but age, gender and sample type were not. Specific recommendations are made for researchers choosing measures of authenticity, well-being and engagement. The study also highlights the need for further research on the interaction of culture and authenticity, as the majority of studies rely on Western / individualist conceptualisations and measures. Overall, the meta-analysis demonstrates that authenticity has positive implications for individual well-being and work engagement and could provide an important path to building healthy work organisations.

1. Introduction

Attempts to define optimal human functioning are based on assumptions of what it means to be human and thus draw heavily on philosophical understandings of the 'good life' (Guignon, 2002). For example, Aristotle suggested that the good life includes both happiness and engagement (Hestir, 2008), where happiness is defined as an activity of authentically expressing one's excellences or virtues. The activity of expressing one's true self, making deliberate choices and taking responsibility for them, now commonly referred to as authenticity, gives a sense of well-being and engagement in life. This philosophical proposal has influenced many psychological studies and forms the basis of this paper, which tests the extent to which authenticity is positively related to both well-being and engagement.

Well-being and engagement are outcomes of increasing interest and importance in a variety of fields (Linton, Dieppe, & Medina-Lara, 2016; Saks & Gruman, 2014) and authenticity, long considered a key contributor to both well-being and engagement in philosophy, has recently seen a resurgence of interest in the psychological literature, particularly within the work organisation context. Authenticity is associated with several positive work outcomes, including higher performance and job satisfaction (van den Bosch & Taris, 2014a) as well as increased

commitment and lower turnover (Cable, Gino, & Staats, 2013). Positive associations between authenticity and well-being have been demonstrated many contexts, including the workplace (Ariza-Montes, Giorgi, Leal-Rodríguez, & Ramírez-Sobrino, 2017). Similarly, authenticity is positively related to employee engagement (Glavas, 2016), which is increasingly recognized as an important element in organisational success (Saks & Gruman, 2014).

Along with this increase in research interest in authenticity, well-being and engagement, has come a proliferation of terms associated with each of these concepts, which can lead to conceptual overlap or confusion. For example, well-being is sometimes 'measured' using authenticity questionnaires and employee engagement is frequently used as a proxy for well-being. There is a need for conceptual clarity and an understanding of how different measures of these concepts impact on our ability to define the underlying relationships. A meta-analysis of the relationship between authenticity and well-being / engagement is therefore timely, summarising the quantitative evidence, providing researchers with an overview of the state of the art and identifying avenues for future research in building healthy work organisations.

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1.1. Authenticity

The concept of authenticity in Western thought has its origins in the Greek philosophers' concern with examining and knowing ourselves, in order to live in a way which reflects our true calling, and has developed through essentialist and existentialist philosophy (Kernis & Goldman, 2006). An essentialist approach views authenticity as a process of self-discovery, involving discovering and acting in line with the essential self or essence; whereas the existentialist approach emphasises self-creation, choosing how to live or exist and taking responsibility for that choice (Pugh, Maslen, & Savulescu, 2017). Heidegger, for example, describes the authentic person as committed to making their life their own, being focused, coherent and fully engaged (Guignon, 2002), while for Sartre, living authentically involves making deliberate choices to be true to oneself and taking responsibility for one's actions (Hestir, 2008).

These philosophical understandings underlie much of the psychological research into authenticity and psychological conceptions of authenticity tend to fall into two broad approaches (Sheldon, Ryan, Rawsthorne, & Ilardi, 1997). The trait approach holds that traits represent our 'true selves' and therefore *consistency* of personality traits is a measure of authenticity. In contrast, more organismic or existentially-informed approaches hold that authenticity is a process of *coherence or congruence* and can be measured as the extent to which a person behaves in a way which feels personally expressive or self-determined. This latter approach shows greater continuity with philosophical understandings of authenticity.

The consistency approach to authenticity is problematic for several reasons. Sheldon (2013) notes that being true to oneself does not necessarily mean a self-concept that is rigid and unchangeable across different roles. Research on both relationship authenticity and authenticity within different social roles has confirmed that people are able to experience authenticity independently of personality consistency (Cross, Gore, & Morris, 2003; Reinecke & Trepte, 2014; Sutton, 2018). In addition, people in East Asian cultures are more likely to self-describe using supposedly 'contradictory traits' (Boucher, 2011), demonstrating the impact of cultural dimensions on definitions of authenticity.

Instead of rigid consistency in personality, the coherence approach holds that the true self can be better viewed as a 'self-narrative' in which content can be changed and even inaccurate but serves important functions, such as supplying high level goals and standards or personas for effective social interchange (Sheldon, 2013). Harter (2002) suggests that a self-narrative can be seen as a way of developing continuity and coherence across seemingly inconsistent behaviours. This is a central issue for humanistic psychologists, who hold that 'authenticity derives from acknowledging contradictory behaviour and integrating this malleability in to a coherent self-concept' (Boucher, 2011, p. 1267).

In this view, coherence is a more important aspect of authenticity than consistency. Rogers' (1961) humanistic model sees authenticity as captured by the concept of *congruence* and focuses on being aware of one's feelings and able to live and share them where appropriate. Similarly, Deci and Ryan's (1980) self-determination theory (SDT) holds that authenticity involves acting out of autonomous motivation rather than feeling compelled to action, so that to be authentic is to pursue "goals that are intrinsic to the self" (Leak & Cooney, 2001, p. 55). In this coherence approach, authenticity is defined as the *degree to which one feels true to self* and it is this definition that is used throughout this study.

1.1.1. Measurement of authenticity

The measures of authenticity used in the research literature reflect this definitional distinction between personality consistency on the one hand and congruence or coherence on the other. When authenticity is defined as personality consistency, the typical methodology requires participants to complete personality questionnaires for several social roles in a single sitting and measures authenticity as the extent to which

there is consistency across these roles. This approach has been criticised both for poor elicitation of the social roles and as subject to self-presentational biases (Sutton, 2018). In contrast, the definition of authenticity as feeling true to oneself leaves ample room for differential behaviour across contexts, and behaviour only becomes inauthentic if experienced as such. Harter (2002) recommends self-report measures as best able to assess the perception of the extent to which behaviour feels in accord with one's true nature. There are several self-report measures available which are based on differing theoretical models.

The Authenticity Scale (Wood, Linley, Maltby, Baliousis, & Joseph, 2008) is based on the person-centred model of Carl Rogers, defining authenticity as congruence between one's internal states, awareness and expression. It is a tripartite measure consisting of self-alienation (feeling out of touch with the true self), authentic living (behaving in a way consistent with one's inner experiences) and acceptance of external influence (conforming to others' expectations). An alternative is provided by Goldman and Kernis (2006, p. 294) who draw on both the humanistic and SDT traditions to define authenticity as "the unobstructed operation of one's true or core self in one's daily enterprise". They propose a four component model, consisting of awareness of and trust in one's inner states and personality traits, unbiased processing of self-relevant information, self-determined behaviour and a relational orientation which values openness and truthfulness. This definition specifically includes the possibility of inconsistency or contradiction in the self-concept and, as Boucher (2011) notes, is less reliant on consistency across situations than other measures. It is therefore particularly appropriate for measuring authenticity as a subjective sense of coherence rather than behavioural consistency.

Some authors have distinguished trait (Kernis & Goldman, 2006; Wood et al., 2008) from state authenticity (van den Bosch & Taris, 2014a; Wang, 2016), with the latter defined as authenticity within a particular role or context. Findings certainly indicate that authenticity can vary depending on complex situational factors. For example, Robinson, Lopez, Ramos, & Nartova-Bochaver (2013) found that people were more authentic with partners and friends than with parents, that women were more authentic in romantic relationships than men, and that male students were more authentic than female students with academic staff. In addition, a test of the French translation of the Authenticity Scale (Gregoire, Baron, Menard, & Lachance, 2014) suggests that the definition of authenticity purely as a trait cannot be supported and that it is perhaps more of an attitude wherein the evaluation of the self leads to a tendency to behave in a certain way. This is echoed by Metin, Taris, Peeters, van Beek, & Van den Bosch (2016) who suggest that authenticity is a cognitive-affective phenomenon involving an evaluation of the degree of fit between one's true self and the environment. In this study, therefore, both trait and state measures of authenticity have been included.

1.1.2. Authenticity outcomes

There is good evidence that authenticity is directly associated with greater well-being across a range of contexts (Ariza-Montes et al., 2017; Kernis & Goldman, 2006; Wood et al., 2008). Besides enhancing well-being directly, authenticity can also be a key mechanism contributing to well-being in relationships (Brunell et al., 2010; Le & Impett, 2013). Knoll, Meyer, Kroemer, & Schröder-Abé (2015) suggest that there is a trend for authenticity to reduce strain and increase well-being at work. Authenticity is associated with higher performance and job satisfaction (van den Bosch & Taris, 2014a) and has a range of positive effects, including commitment, performance and lower turnover (Cable et al., 2013). The beneficial effects of authenticity have been demonstrated in online contexts as well, with authenticity positively associated with self-esteem and social support and negatively with anxiety and narcissism (Twomey & O'Reilly, 2017). A longitudinal study demonstrated that more authentic online self-presentation had a positive impact on well-being over six months (Reinecke & Trepte, 2014).

Authenticity may also serve as a buffer or protective factor. For

example, feeling authentic in relationships worked as a protective factor for women navigating the challenges of motherhood (Luthar & Ciciolla, 2015) and provided a buffer to the impact of distress associated with LGB (Riggle, Rostosky, Black, & Rosenkrantz, 2017) or immigrant identity (Zhang & Noels, 2013) within a sociocultural environment where it is still stigmatised. Evidence also indicates a buffering effect of authenticity for interpersonal conflict effects on well-being (Wickham, Williamson, Beard, Kobayashi, & Hirst, 2016).

1.2. Well-being

We have seen that philosophical conceptualisations view authenticity as both an integral part of and a route towards the 'good life' and this is reflected in psychological models, sometimes leading to confusing conceptual overlap. Wood et al. (2008) for example, simultaneously suggest that authenticity can be seen as the very *essence* of well-being and provide evidence that authenticity can *predict* well-being. At times, this has resulted in researchers using authenticity as a measure of well-being, for example measuring well-being as authenticity and meaning in life (Di Fabio & Palazzeschi, 2015).

Despite this, it is possible to distinguish authenticity and well-being on both theoretical and statistical grounds. From an existentialist philosophical standpoint, authenticity is defined in terms of conscious choice and not necessarily going along with the crowd, which may lead to conflict or stressful situations, reducing well-being. In addition, SDT predicts that the satisfaction of the three basic needs for autonomy, relatedness and competence means that an individual is more likely to accept and express internal states, leading to a sense of authenticity which in turn influences well-being (Thomaes, Sedikides, Bos, Hutteman, & Reijntjes, 2017).

Further support for the distinction between authenticity and well-being concepts is provided by research which has shown authenticity contributes to eudaimonic well-being (pursuit of meaning) but does not always promote hedonic well-being (pursuit of pleasure) (Kernis & Goldman, 2006). An example of how this may happen is when acting in accordance with one's inner values or convictions may result in social exclusion. Similarly, a longitudinal study indicates that the authenticity-well-being link is unidirectional; authenticity predicts later life satisfaction, but not vice versa (Boyratz, Waits, & Felix, 2014). Ménard and Brunet's (2011) work suggests that authenticity leads to meaning, which in turn results in happiness, and Wood et al. (2008) note that while they found a strong positive relationship between authenticity and well-being, there is no overlap in the items used to measure them.

To avoid conceptual confusion, this meta-analysis specifically assesses authenticity as distinct from well-being. Well-being is an increasingly central component of psychological, medical, economic and interdisciplinary research though there is little consensus on how it should be defined or measured (Linton et al., 2016). While well-being is sometimes measured using objective criteria (such as income levels or leisure time) we focus here on subjective well-being (SWB), which consists of an individual's *evaluation* of the quality of his or her own life. SWB has been shown to have positive relationships with health outcomes, personal characteristics and neurological functioning, as well as predicting future behaviour (Kahneman & Krueger, 2006).

SWB has a fairly long history of being defined and measured in terms of affective reactions to and cognitive judgements about life (Diener, 1984), with the former measured by an individual's balance of positive and negative affect and the latter consisting of an evaluative assessment of one's satisfaction with life. There is, however, a multitude of related and overlapping terms used in the literature (Linton et al., 2016) and SWB is often used interchangeably with mental well-being, mental health, psychological well-being (PWB) and happiness. In understanding the predictors of well-being, Seligman (2002) has distinguished three paths: pleasure (hedonia), engagement and meaning (eudaimonia). Some authors have then defined these pathways as

components of well-being, though with conflicting definitions. For example, some equate hedonic with SWB and happiness, and eudaimonic with PWB and meaning in life (e.g. Joseph et al., 2012; Ménard & Brunet, 2011). In contrast, Piarik and Larson (2011) distinguish SWB from Rogers' eudaimonic concepts of self-acceptance, growth and self-actualisation and use PWB as an umbrella term for both components.

This theoretical confusion is reflected in statistical analysis of the measures. Joseph and Wood (2010) note that while factor analysis of SWB and PWB measures indicates they may represent two different latent constructs, the correlations between the two factors are high enough that they would normally be taken to indicate equivalence ($r = 0.76$ to 0.84). In addition, the authors note that high PWB and high SWB co-present in the majority of respondents.

In an extensive review of well-being measures, (Linton et al., 2016) conclude that well-being should be considered an 'umbrella term' rather than a distinct or unitary concept. They stress that well-being can be distinguished from health. Subjective well-being consists of an individual's *evaluation* of the quality of his or her own life rather than measures of physical health. In addition, Baker, Tou, Bryan, & Knee (2017) find that, while authenticity may provide a buffering effect against distress in some circumstances, its largest effect is on increasing the positive aspects of well-being. For this reason, in this meta-analysis, measures which assess mental or physical symptoms of stress or ill-health are excluded. The definition of well-being that is adopted in this paper to guide the selection of studies is of well-being as a *subjective evaluation of one's quality of life*.

Given both the theoretical models which propose authenticity as key to well-being and the evidence reviewed above, this meta-analysis tests the following hypothesis:

H1 Authenticity is positively related to well-being

While we might expect that this positive relationship between authenticity and well-being is present in the work context, there is evidence that the specific pressures of work can impact on employees' ability to be authentic (van den Bosch & Taris, 2014b). For example, research has shown that managers who accepted external influence (often used as a marker of inauthenticity) had higher job satisfaction (F. G. Lopez & Ramos, 2016). Furthermore, Roberts, Cha, Hewlin, & Settles (2009) suggest that people have reduced authenticity in the workplace because they often put on masks to increase status, protect their image or avoid conflict. There may also be extensive penalties to resisting external influence at work, from social condemnation through reduction in career prospects even to being fired (Ariza-Montes et al., 2017). In a cross-cultural study of authenticity in different relationships Robinson et al. (2013) found that people reported being least authentic with their work colleagues.

On the other hand, it has been suggested that authenticity is a personal resource which can be drawn on to meet work demands and improve engagement and well-being (Metin et al., 2016; van den Bosch & Taris, 2014a). And while it is certainly plausible that at times, work demands might decrease authenticity, at other times work can enhance authenticity by allowing expression of valued aspects of the self (Sutton, 2018). Clearly there is a complex interplay between authenticity and organisational pressures and this leads us to consider the relationship of authenticity to a major outcome of interest in the workplace, namely engagement.

1.3. Engagement

In a seminal paper, Kahn (1990, p. 700) defined engagement as the "simultaneous employment and expression of a person's 'preferred self' in task behaviours" during work role performance. This definition of engagement incorporates elements of both authenticity (expression of full self) and eudaimonic well-being (sense of meaning in work) but is based on an assumption that employees can use varying degrees of

themselves in their work roles and are active in maintaining boundaries between who they are and the role they occupy. Kahn suggests that engagement requires the psychological conditions of meaningfulness, psychological safety and availability of personal resources.

A slightly different perspective on engagement is provided by Maslach and Jackson (1981) who define it as the opposite of burnout, characterised by energy, involvement and efficacy, and resulting from a match between the individual and organisational aspects of work. Developing from this conceptualisation, Schaufeli, Taris, & van Rhenen (2008) define engagement using the job-demands-resources (JDR) model as a state in which the individual's demands and resources are well balanced. Although both of these approaches attempt to establish engagement and burnout as distinct constructs, the evidence from meta-analyses is unclear on this and measures of the two constructs overlap (Saks & Gruman, 2014). While the engagement literature suffers from numerous definitions and a lack of consensus, the definitions share elements of energy, enthusiasm and focused effort (Reis, Trullen, & Story, 2016).

In their review, Saks and Gruman (2014) note that engagement is promoted as a key factor in organisational success and identify a wide range of outcomes, including greater return on assets, increased profitability and customer satisfaction, improvements in safety, positive job attitudes and decreased turnover. Kahn's theory of engagement suggests that the more authentic a person can be at work (i.e. the more they can show of their whole self) the more engaged they will be (Glavas, 2016). Van den Bosch and Taris (2014a) suggest that authenticity may be an antecedent of work engagement, and (Reis et al., 2016) argue that authentic employees are more likely to work in jobs that fit their core values, or at least to undertake their work in ways that feel more congruent, and this is likely to result in increased engagement. Authenticity may also act as the process by which organisational variables can impact on engagement. Employee authenticity has been found to mediate corporate social responsibility effects on engagement (Glavas, 2016) as well as the effects of control-oriented cultures on engagement (G. Reis et al., 2016). This meta-analysis therefore tests hypothesis 2:

H2 Authenticity is positively related to engagement

H1 and H2 form the basis of this meta-analysis, but the effect of moderators is also investigated. Several moderators are tested, namely age, gender, type of sample (e.g. university students or adults), individualism / collectivism, and the type of measure employed.

1.4. Moderators

It may be expected that characteristics of the sample participants influence the relationships under study. For example, there have been reports that female and older participants have higher authenticity (Boyras & Kuhl, 2015) but it is not known whether there is also a moderating influence on their well-being or engagement. There is also emerging evidence of complex relationships between authenticity and some dimensions of culture. For example, the cultural dimension of dialectical thinking reduces the strength of the relationship between authenticity and well-being, though this effect does not seem to be reflected at the national level (Boucher, 2011). Furthermore, although a Russian sample was found to have lower authenticity than a UK and USA sample, authenticity was just as predictive of well-being in all countries (Robinson et al., 2013).

Feeling authentic is due at least in part to the extent to which one is free to behave in ways consistent with one's self-concept. Survey and experimental research indicates that greater power can allow people to be true to their desires and inclinations (that is, more authentic) and thereby leads to greater well-being (Kifer, Heller, Perunovic, & Galinsky, 2013). This was confirmed in workplace research which demonstrated that those with more autonomous jobs (van den Bosch &

Taris, 2014a) or in higher managerial positions (G. Reis et al., 2016) reported higher authenticity. While greater power seems to be associated with greater authenticity, in more collectivist cultures, increased authenticity is then negatively associated with well-being (Datu & Reyes, 2015). This may be because the increasing tendency to be true to oneself comes into conflict with the cultural norm which promotes relationship harmony above self-interest. In this study, therefore, individualism is tested as a moderator of the authenticity – well-being / engagement relationship, with the expectation that greater collectivism may weaken the relationship.

Finally, the effect of different measures of the constructs under investigation will be explored. This will help to contribute to the ongoing debates around conceptual definitions as well as provide researchers with recommendations of the most appropriate scales for different applications. For example, De Carvalho Chinelato, Ferreira, Valentini, & Van Den Bosch (2015) report a correlation of 0.72 between the flourishing measure of well-being and work engagement, which as both measures include items related to finding meaning in life and work, is more reflective of conceptual overlap than a strong relationship between distinct concepts. Given that there is sometimes conceptual overlap between engagement and well-being, care is taken in this meta-analysis to select distinct measures of the concepts. Exploring the extent to which the choice of measure moderates the relationships with authenticity will provide guidance to researchers in terms of choosing the most appropriate measure for their study as well as contribute to the ongoing discussion over conceptual definition.

In summary, this meta-analysis tests the proposition that authenticity is positively related to well-being and engagement and assesses the impact of several moderators on these relationships.

2. Method

The full search strategy and exclusion criteria are summarised in the PRISMA diagram (Moher, Liberati, Tetzlaff, & Altman, 2009) in Fig. 1.

2.1. Literature search

A comprehensive search for relevant studies was performed using several strategies. First, electronic databases were searched using the basic search string *authenticity AND (well-being OR employee engagement)* in titles and abstracts, tailored as necessary to suit the different databases. For example, alternative spellings of well-being (wellbeing or well being) were included and the use of index terms in PsycInfo ensured as broad an inclusion as possible of related studies. The following databases were searched: PsycInfo, Emerald, EBSCOhost (searching Academic Search Complete, Business Source Premier and Psychological/Behavioural Sciences), ProQuest and Web of Science. Types of results were limited to 'scholarly' where possible in order to exclude commentary or magazine articles. Results to the end of December 2017 were included.

Second, thesis databases were searched in order to identify relevant unpublished thesis or dissertation studies: Canada Theses (Canada), ETHOS (UK and Ireland), NZresearch (New Zealand), PQDT (USA) and Trove (Australia). The search on two of these databases (Trove and PQDT), returned over 200 hits. The results were sorted by relevance and the first 60 results scanned for relevance. Third, personal contacts and authors of papers were contacted to identify further unpublished data. Finally, reference lists of studies that met the inclusion/exclusion criteria were examined to check for any further studies.

2.2. Inclusion and exclusion criteria

After exclusion of duplicates from the citation list, the title and abstract for each of the remaining citations ($N = 285$) were evaluated against the first set of exclusion criteria. Citations were excluded if they were not quantitative (for example, reporting on qualitative studies or

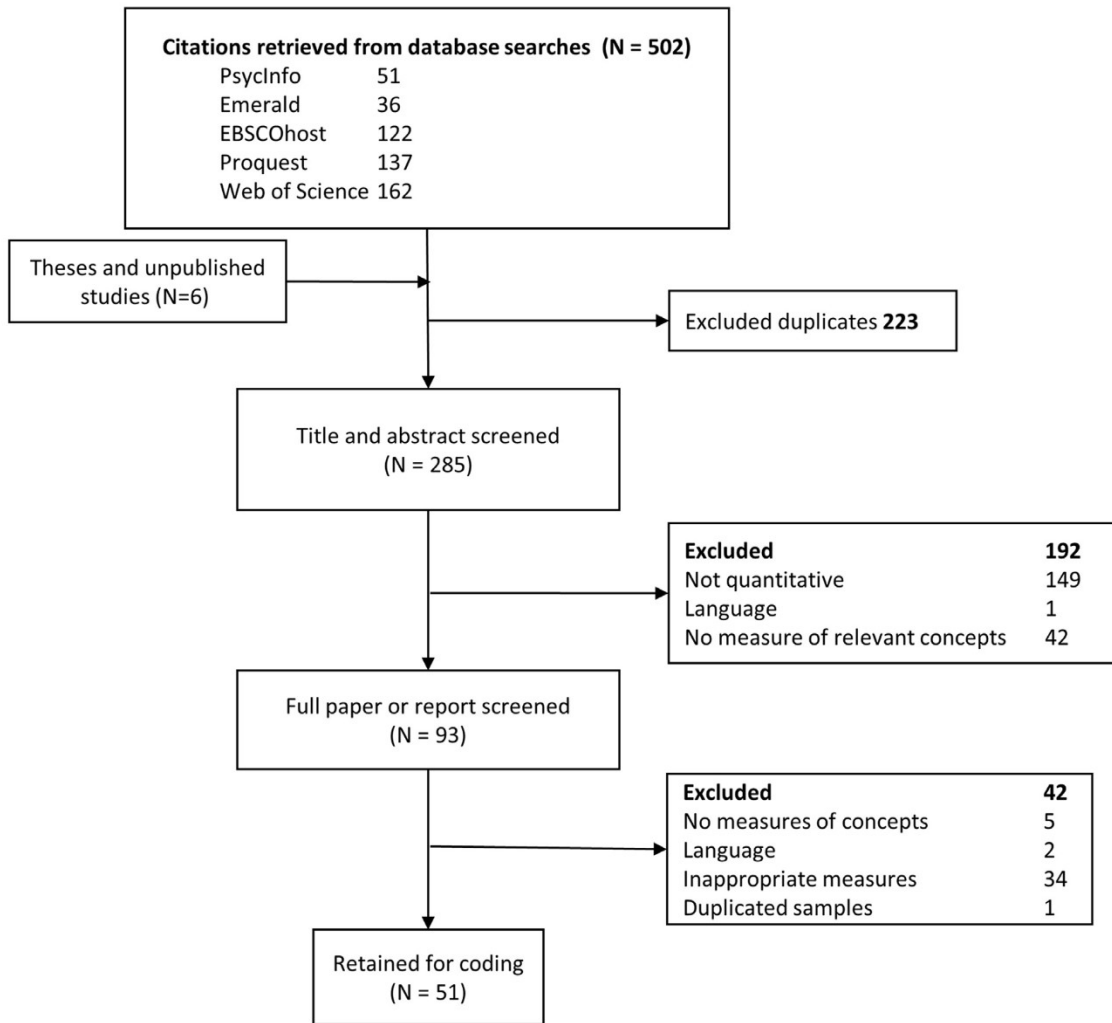


Fig. 1. Search strategy and inclusion/exclusion criteria.

providing conceptual / theoretical discussions only), were not available in English or German, or did not report a measure of authenticity and at least one of well-being or engagement.

This resulted in a list of 93 citations for which the full papers or reports were obtained. Examination of the full papers revealed another seven papers could be excluded using the same criteria as above. At this stage, the final exclusion criterion was applied and studies which did not use appropriate measures of the concepts (as described below) were excluded. Where papers reported more than one study, each study was evaluated against the same criteria.

2.3. Coding procedure

The following data were extracted from each study, coded and recorded in a spreadsheet: sample information, measures and effect sizes. Data extraction was done independently by the author and a research assistant, with any discrepancies checked and resolved by consensus. Basic sample descriptors included sample size (N), mean age, standard deviation of age, percentage female in the sample, and country of sample. In addition, brief qualitative descriptors of the sample were collected for later collation, including terms such as employee, worker, general adult community sample, undergraduate or postgraduate students. These descriptors were subsequently reduced to four broad categories of adolescents, university students, employees and adults (not otherwise specified). Where a sample included, for example, university students and employees, it was coded simply as adults. Ethnic

background was not recorded as this varied too widely between studies.

Individualism / collectivism scores were created as a new variable consisting of the individualism scores for the country of sample, derived from Hofstede's work (Hofstede, 2001), with higher scores indicating greater individualism. It is recognised that this is only a proxy and not necessarily an accurate measure of the individualism scores of that sample. If a sample was drawn from more than one country, it was excluded from moderator analysis.

2.3.1. Measures

Third, the names, mean scores and standard deviations of the relevant measures were extracted. To be included in this meta-analysis, studies had to report at least one measure of authenticity and at least one of well-being or engagement. As discussed in the introduction, these concepts may have different meanings depending on the author's background or focus, so a specific definition of each was utilised here to provide consistency.

2.3.1.1. Authenticity. As outlined in the introduction, authenticity is defined for this review as *individual subjective authenticity*. Studies were included if they contained an established measure of felt authenticity or clear evaluation by single or multiple items of whether 'this feels like an authentic part of me' (see Table 1). Studies were excluded if authenticity was measured solely as congruence, consistency across different situations, emotional dissonance or acting. In addition, studies where authenticity was measured using other-report were excluded.

Table 1
Authenticity measures included in the meta-analysis.

| Broad category | Authenticity measure | Description |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sheldon et al | Authenticity (Kennon M Sheldon et al., 1997) | Based on a humanistic and self-determination model of authenticity, measuring subjective feeling of authenticity and sense of autonomy. |
| Authenticity Inventory | Authenticity Inventory (Goldman & Kernis, 2002) <i>Revised and published as Authenticity Inventory-3 (Kernis & Goldman, 2006)</i> | Developed as a comprehensive measure of authenticity incorporating positive psychology, humanistic psychology and self-determination theory. Assesses authenticity on four subscales (awareness, unbiased processing, behaviour, and relational orientation). Cronbach's alpha for the whole questionnaire is 0.9 and factor analysis indicates that both a one-factor and 4-factor structure fit the data (Kernis & Goldman, 2006). Therefore in this study, the overall scores are used to measure authenticity. |
| Authenticity Scale | Authenticity Scale (Wood et al., 2008) | Based on a model of authenticity proposed by Carl Rogers and consisting of three subscales (self-alienation, authentic life, external influences acceptance). In this meta-analysis, overall scores were used when available. Firstly, because the measure conceptually assesses the overall construct of authenticity and secondly, because all three subscales load highly on the single latent factor representing authenticity. |
| Other | Individual Authenticity Measure at Work (van den Bosch, & Taris, 2014a) | An adaptation of the Wood et al. (2008) Authenticity Scale to include 'at work' for each item. |
| | Integrated Authenticity Scale (Knoll et al., 2015) | Integrates the Wood et al. (2008) Authenticity Scale and the Kernis and Goldman (2006) Authenticity Inventory to measure authenticity on two subscales: authentic self-awareness and authentic self-expression. |
| Simple | Authenticity in Relationships Scale (Wang, 2016) | AIRS conceptualises authenticity as 3 elements: ego-centred, other-centred and balanced, but the authors note that only balanced authenticity is expected to relate to positive well-being. Therefore, this meta-analysis used results related to the Balanced Authenticity subscale only. |
| | Authentic self-expression (Cable et al., 2013) | Scale adapted from the personal expressiveness scale in (Waterman, 2005). |
| | LGB Authenticity (Riggle, Mohr, Rostosky, Fingerhut, & Balsam, 2014) Author-developed items | A subscale of the LGB Positive Identity measure, items measure perceived / subjective authenticity. Simple measures based on items like "x feels like an authentic part of me" where x may be trait descriptors for different roles / relationships or behavioural actions |

Authentic leadership measures were therefore considered inappropriate for this meta-analysis for two reasons: a) the measures of authentic leadership (e.g. Walumbwa, Avolio, Gardner, Wernsing, & Peterson, 2008) assess too broad a concept and do not focus on self-reported felt authenticity and b) they primarily utilise other-report. Finally, studies were evaluated to ensure congruent levels of contextualisation between authenticity and well-being or engagement measures. That is, when authenticity was measured within context (e.g. within the work role) then an equally contextualised measure of well-being or engagement was used (e.g. a measure of well-being at work). To allow for moderator analysis, measures were subsequently recoded into five broad categories based on the underlying theoretical model.

2.3.1.2. Well-being. In this meta-analysis, well-being is defined as a *global, subjective evaluation of one's quality of life*. Many studies included in this meta-analysis utilised more than one measure of well-being. During coding, therefore, a decision was made as to which measure to retain for this meta-analysis and where possible, more global measures were preferred over simpler or more specific measures. These global measures were either (a) defined as such in a recent review of well-being measures (Linton et al., 2016) or (b) a composite created from several measures of well-being. Measures were subsequently summarised into three broad categories to allow for moderator analysis (Table 2).

Table 2
Well-being measures used in this meta-analysis.

| Broad category | Description | Well-being measure |
|---------------------|------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Simple | simple measures of elements of well-being | Rosenberg self-esteem (Rosenberg, 1965) Subjective Happiness Scale (Lyubomirsky & Lepper, 1999) Satisfaction with life scale (SWLS) (Diener et al., 2010) |
| Composite | measures created from composite of scores on more than one scale | Composite created from 2 or more measures, most commonly SWLS combined with positive and negative affect balance. Some include a measure of stress in the composite. Concise measure of subjective well-being (Suh & Koo, 2011) |
| Optimal functioning | measures of well-being as optimal functioning | Meaning in Life Questionnaire (Steger, Frazier, Oishi, & Kaler, 2006) Psychological well-being (Ryff & Keyes, 1995) Mental Health Inventory – 38 (Veit & Ware, 1983) Warwick Edinburgh Mental Well-Being Scale (Tennant et al., 2007) World Health Organization's Quality of Life scale (short version) (The WHOQOL Group, 1998) |

Where well-being was measured simply as the opposite of a measure of stress or ill health, such as symptoms of anxiety or depression, the sample was excluded. Samples were also excluded if the only measure of well-being was the extent to which basic psychological needs were met; while self-determination theory suggests that meeting psychological needs can contribute to well-being, it is not considered a suitable direct measure of well-being. Table 2 summarises the well-being measures in this meta-analysis.

2.3.1.3. Engagement. Employee engagement measures showed less variety than authenticity and well-being, with the majority of studies utilising the UWES (Utrecht Work Engagement Scale, W. Schaufeli & Bakker, 2003) and only one using an alternative (Block, Glavas, Mannor, & Erskine, 2015). Saks and Gruman (2014) note that the original factor structure of the UWES has been questioned and many studies combine it into a single scale, which is the approach adopted in this meta-analysis.

2.3.2. Effect sizes

Finally, the effect size of the relationship between concepts was coded. Because this meta-analysis examines the relationship between continuous variables, correlation coefficients were used to summarise the relationship between a) authenticity and well-being and b) authenticity and engagement. In most cases, *r* could be extracted directly

from the papers while a minority of papers reported *t*-values. Means and standard deviations were also recorded for each measure.

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 2 sample 1 = 2.1; Study 3 sample C = 3C) in order to ensure transparency of results. Where studies reported data separately for males and females they were also recorded as independent samples. For studies using an intervention or longitudinal approach, only Time 1 or pre-intervention results were recorded in order to remain consistent with other studies.

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, Hedges, Higgins, & Rothstein (2009a). As this is a synthetic effect size and introduces some error, it was only done in cases where a reliable single measure of the construct was unavailable and either a) the component subscales were part of an established scale (e.g. subscales of a single measure) or b) the author reported using the composite with adequate reliability ($\alpha > 0.7$).

If the required data for a specific effect size was not available from the published paper, it was requested directly from the authors. Of the 10 authors contacted, 9 responded with the needed data and only one study had to be dropped from the analysis.

2.4. Data analysis

Analysis was conducted using Comprehensive Meta-Analysis software (CMA version 3). In order to take account of sample size, effect sizes were converted into Fisher's *Z* before meta-analysis took place. Results were then transformed back into correlation coefficients and Cohen's (1988) guidelines of small ($r = 0.1$), medium ($r = 0.3$), large ($r = 0.5$) were used for ease of interpretation. Categorical moderators were assessed by comparison of subgroups and meta-regression was used to evaluate continuous moderators.

Given the wide range of sample populations and methods employed in these studies, meta-analyses were conducted using the random-effects model. Unlike the fixed-effects model, this model does not assume that all studies in this meta-analysis are functionally equivalent or share a common effect size. Instead, it 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, Hedges, Higgins, & Rothstein (2009b). 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.

3. Results

3.1. Description of included studies

From the 51 papers included in the meta-analysis, 75 independent samples were extracted, 65 for authenticity and well-being (Table 3), and 10 for authenticity and engagement (Table 4). Sample sizes ranged from 32 to 15,184, with the total $N = 36,533$ (well-being $N = 18,637$; engagement $N = 17,896$). Seventy-five percent of the participants were female. The majority of the samples (34.7%) came from the USA, with 12% from the UK, 8% from Canada and 6.7% each from China and the Netherlands. Other European countries contributed another 17.1% and remaining studies came from around the world. Fifty-one percent of the samples consisted of university students, 24% employees, 20% adults not further specified, and the remaining 5% adolescents. All studies were written in English. Studies were conducted between 1997 and 2017.

3.2. Analysis of heterogeneity

The variability across samples was significant for both well-being ($Q = 820.42$, $df = 64$, $p < 0.001$) and engagement ($Q = 288.97$, $df = 9$, $p < 0.001$) and with I^2 values of 92% and 97% respectively, there was evidence that there are likely to be variables which moderate the overall effect size.

3.3. Outliers and large samples

Because meta-analyses can be heavily influenced by outliers and large samples, checks were conducted to identify studies which might have an undue influence on the overall effect. Studies were considered outliers if they met the three criteria outlined by Hanson and Bussière (1998): the overall *Q* is significant, the study has the most extreme highest or lowest effect size, and the study accounts for more than 50% of the overall variability. No outliers were identified for the well-being studies but one was identified in the engagement studies (namely, Glavas, 2016). Because identifying outliers is an imprecise process, results for authenticity-engagement are reported with and without the outlier and interpretations are based on the findings without (Helmus, Babchishin, & Hanson, 2013).

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 overall analysis for well-being, fixed effect weights of the individual studies varied between 0.16 and 20.21. Two large studies were identified and their weights reduced to be 150% of the next largest: Luthar 2015 (adjusted $N = 1445$) and Vonk 2012 (adjusted $N = 2167$). In the engagement studies, fixed effect weights varied between 0.64 and 82.76, with a single large study, Glavas, 2016 (adjusted $N = 1028$). The following analyses are based on these adjusted weightings.

3.4. Overall effect size

Forest plots for authenticity and well-being (Fig. 2) and authenticity and engagement (Fig. 3) show the effect size and confidence intervals for each study as well as the overall effect size.

Authenticity shows a moderate positive relationship with well-being ($r = 0.40$, 95% CI [0.35, 0.45], $k = 65$, $N = 16,136$). Authenticity also has a moderately positive relationship with engagement, both with ($r = 0.42$, 95% CI [0.26, 0.56], $k = 10$, $N = 4217$) and without the outlier ($r = 0.37$, 95% CI [0.30, 0.43], $k = 9$, $N = 3189$). Of note is that the outlier shows a much higher effect size than the remaining studies, $r = 0.74$ and the measure of engagement in this study was different to the others: all others used UWES and this study used a measure which evaluates emotional engagement (Block et al., 2015). It would appear that this measurement of engagement has a stronger relationship to authenticity than the UWES.

3.5. Moderator analysis

Three categorical moderators (sample type, authenticity measure, well-being measure) and three continuous moderators (percentage female, age, individualism of the sample) were evaluated.

3.5.1. Categorical moderators

Sample type was not a significant moderator of the relationship between authenticity and well-being ($Q_{\text{between}} = 2.59$, $df = 3$, $p > 0.05$). Moderator analysis was not possible for authenticity and engagement as only one study had a different sample type from the others.

All five categories of authenticity measures showed moderate to strong positive relationships with well-being, indicating that all authenticity measures are able to capture this relationship, though the difference between the measures was significant ($Q_{\text{between}} = 11.74$, $df = 4$, $p < 0.05$). Studies which measured authenticity using the

Table 3
Descriptive summary of studies included in this meta-analysis (well-being).

| Citation | Study code (first author, date, study or sample number) | sample | country | % female | Age (mean) | N |
|---------------------------------------------------|---------------------------------------------------------|---------------------|---------------|----------|------------|------|
| (Ariza-Montes et al., 2017) | Ariza-Montes 2017 | employees | Spain | 84 | 44.9 | 963 |
| (Baker et al., 2017) | Baker 2017 | university students | USA | 78 | 23.56 | 98 |
| (Bettencourt & Sheldon, 2001) | Bettencourt 2001 1 | university students | USA | 61 | | 129 |
| | Bettencourt 2001 2 | university students | USA | 69 | | 101 |
| | Bettencourt 2001 3 | university students | USA | 60 | | 90 |
| | Bettencourt 2001 4 | university students | USA | 65 | | 113 |
| (Boucher, 2011) | Boucher 2011 | university students | China and USA | 75 | 18.9 | 240 |
| (Boyratz et al., 2014) | Boyratz 2014 | university students | USA | 76 | 22.34 | 232 |
| (Boyratz & Kuhl, 2015) | Boyratz 2015 | adults | USA | 75 | 26.92 | 619 |
| (Brunell et al., 2010) | Brunell 2010 A | university students | USA | 0 | 19.47 | 62 |
| | Brunell 2010 B | university students | USA | 100 | 19.47 | 62 |
| (Cross et al., 2003) | Cross 2003 3 | university students | USA | | | 320 |
| (Datu & Reyes, 2015) | Datu 2015 | university students | Philippines | 71 | 17.84 | 375 |
| (De Carvalho Chinelato et al., 2015) | DeCarvalhoChinelato 2015 | university students | Brazil | 66 | 34.9 | 477 |
| (Di Fabio & Palazzeschi, 2015) | DiFabio 2015 | employees | Italy | 63.1 | 19.53 | 168 |
| (Goldman & Kernis, 2002) | Goldman 2002 | adolescents | USA | | | 79 |
| (Gregoire et al., 2014) | Gregoire 2014 1 | university students | Canada | 79 | 28.63 | 188 |
| | Grijak 2017 2 | university students | Serbia | 93 | 21.8 | 206 |
| (Impett et al., 2012) | Impett 2012 2 | university students | Canada | 52 | 23.9 | 135 |
| (Impett, Javam, Le, Asyabi-Eshghi, & Kogan, 2013) | Impett 2013 3 | university students | Canada | 64 | 19.5 | 73 |
| (Joseph et al., 2012) | Joseph 2012 | university students | UK | 54 | 33.54 | 214 |
| (Kifer et al., 2013) | Kifer 2013 1 | adults | Israel | 57 | 32.34 | 351 |
| (Knoll et al., 2015) | Knoll 2015 B2 | employees | Germany | 77 | 33.5 | 89 |
| | Knoll 2015 C1 | employees | Germany | 88 | 22.1 | 76 |
| | Knoll 2015 D | university students | Germany | 78 | 21.1 | 104 |
| (Le & Impett, 2013) | Le 2013 | university students | Canada | 64 | 19.5 | 73 |
| (Leak & Cooney, 2001) | Leak 2001 | university students | USA | 64 | 19.6 | 209 |
| (Luthar & Cicciolla, 2015) | Luthar 2015 | adults | USA | 100 | mode:31-40 | 2247 |
| (Ménard & Brunet, 2011) | Menard 2011 | employees | Canada | 49 | mode:46-55 | 360 |
| (Pillow et al., 2017) | Pillow 2017 | university students | USA | 69 | 19.21 | 629 |
| (Pisarik & Larson, 2011) | Pisarik 2011 | university students | USA | 51 | 17.94 | 68 |
| (Reinecke & Trepte, 2014) | Reinecke 2014 | adults | Germany | 62 | 26 | 374 |
| (Riggle et al., 2017) | Riggle 2017 | adults | USA | 44 | 31.2 | 373 |
| (Robinson et al., 2013) | Robinson 2013 1 | university students | USA | 87 | 23 | 196 |
| | Robinson 2013 2 | university students | UK | 62 | 31 | 240 |
| | Robinson 2013 3 | university students | Russia | 82 | 26 | 192 |
| (Scharf & Maysless, 2010) | Scharf 2010 | adolescents | Israel | 100 | 17 | 115 |
| (Schlegel, Hicks, Arndt, & King, 2009) | Schlegel 2009 4 | university students | USA | 69 | 18.56 | 140 |
| | Schlegel 2009 5 | university students | USA | 50 | 19.48 | 155 |
| (Sheldon et al., 1997) | Sheldon 1997 1 | university students | USA | 71 | | 193 |
| (Sheldon, Gunz, & Schachtman, 2012) | Sheldon 1997 2 | university students | USA | 64 | | 116 |
| | Sheldon 2012 1 | university students | USA | 61 | | 135 |
| | Sheldon 2012 2 | university students | USA | 58 | | 170 |
| (Stevens & Constantinescu, 2014) | Stevens 2014 | university students | Romania | 75 | 26.36 | 83 |
| (Sutton, 2017) | Sutton 2017 | employees | UK | 67 | 36.81 | 191 |
| (Thomaes et al., 2017) | Thomaes 2017 1 | adolescents | UK | 52 | 13.9 | |
| | Thomaes 2017 3 | adolescents | Netherlands | 44 | 15.3 | |
| (Thompson, 2013) | Thompson 2013 | adults | Australia | 68 | 20.99 | 80 |
| (Toor & Ofori, 2009) | Toor 2009 | employees | Singapore | 16 | 42.5 | 32 |
| (Vainio & Daukantaitė, 2016) | Vainio 2016 1A | university students | Sweden | 100 | 26.4 | 117 |
| | Vainio 2016 1B | university students | Sweden | 0 | 26.4 | 76 |
| | Vainio 2016 2A | employees | Sweden | 100 | 40.8 | 256 |
| | Vainio 2016 2B | employees | Sweden | 0 | 40.8 | 134 |
| (Vonk & Smit, 2012) | Vonk 2012 | adults | Netherlands | 72 | 38.6 | 3696 |

(continued on next page)

Table 3 (continued)

| Citation | Study code (first author, date, study or sample number) | sample | country | % female | Age (mean) | N |
|------------------------|---------------------------------------------------------|---------------------|---------|----------|------------|-----|
| (Wang, 2016) | Wang 2016 1 | adults | China | 50 | 33.26 | 191 |
| | Wang 2016 2.1 | adults | China | 60 | 30.54 | 198 |
| | Wang 2016 2.3 | adults | China | 53 | 30.65 | 216 |
| | Wang 2016 2.4 | adults | China | 60 | 29.96 | 200 |
| (Wickham et al., 2016) | Wang 2016 2.5 | adults | China | 61 | 29.82 | 207 |
| | Wickham 2016 | university students | USA | 100 | 24.21 | 68 |
| (Wood et al., 2008) | Wood 2008 1 | university students | UK | 61 | | 200 |
| | Wood 2008 2.1 | adults | UK | 48 | 38.6 | 180 |
| (Zhang & Noels, 2013) | Wood 2008 2.2 | university students | UK | 87 | | 158 |
| | Wood 2008 2.4 | adults | UK | 85 | 32.23 | 104 |
| | Zhang 2013 | university students | Canada | 67 | 18.94 | 129 |

Authenticity Inventory (Goldman & Kernis, 2002) ($k = 13$) showed a substantially stronger positive relationship with well-being ($r = 0.60$, 95% CI [0.57, 0.62]) than all other measures, as summarised in Table 5. Subgroup analysis for the engagement studies was not possible due to two categories only having a single study in each.

Authenticity showed moderate to strong positive relationships with all measures of well-being, indicating that all well-being measures are able to capture this relationship. Excluding a single study which did not report the measure of well-being used, 22% percent of studies measured well-being as optimal functioning, 32% used composite measures and 45% used simple measures. Subgroup analysis was marginally significant ($Q_{\text{between}} = 6.09$, $df = 2$, $p = 0.05$), with composite well-being measures having a stronger relationship with authenticity ($r = 0.53$, 95% CI [0.51, 0.55]) than optimal functioning measures ($r = 0.45$, 95% CI [0.42, 0.48]), and simple measures having the lowest correlation ($r = 0.34$, 95% CI [0.32, 0.36]).

3.5.2. Continuous moderators

Continuous moderators were investigated using maximum likelihood (ML) random effects meta-regression (Borenstein, Hedges, & Higgins, 2015). The percentage of the sample who were female did not significantly moderate the authenticity and well-being relationship ($Q_{\text{model}} = 1.73$, $df = 1$, $p > 0.05$, $k = 63$). Age of the sample also did not moderate the relationship ($Q_{\text{model}} = 0.34$, $df = 1$, $p > 0.05$, $k = 51$). However, individualism was a marginally significant moderator ($Q_{\text{model}} = 3.82$, $df = 1$, $p = 0.05$, $k = 64$, $R^2 = 0.09$), increasing the strength of the relationship between authenticity and well-being ($B = 0.002$, 95% CI [0, 0.004]).

3.6. Publication bias

Tests of publication bias are based on the assumption that small studies are more likely to be published if they show a large effect size and therefore larger effect sizes are over-represented and meta-analysis may overestimate the real effect size. There are many different approaches to testing for publication bias and it is often recommended that two or more tests are conducted to take account of their different strengths and weaknesses (Borenstein et al., 2009b; Field & Gillett, 2010; Kepes, Banks, McDaniel, & Whetzel, 2012). Three methods are utilised here. Trim and Fill, and Funnel Plot using imputed values, can show how the effect size might change with hypothesised 'missing' studies. Cumulative analysis can show whether there is 'drift' in effect sizes with publication year (i.e. time lag bias or drift toward lower effect size over time) or precision (i.e. whether the inclusion of smaller studies results in bias) (Borenstein et al., 2009b).

The funnel plot for well-being was symmetrical, indicating that smaller studies are no more likely to report a high correlation between authenticity and well-being than the larger studies. This was 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 showed no evidence of drift due to publication year, so it is unlikely there is a time lag bias. As previously noted, the complete meta-analysis showed a correlation of 0.43 and a cumulative meta-analysis based on the 10 largest studies (accounting for 51% of the relative weight) reported a substantially similar effect size estimate of 0.44 (95% CI 0.43 to 0.46), indicating that the inclusion of smaller studies did not result in significant change to the effect size.

For the engagement studies, the outlier identified in earlier analysis was excluded from publication bias analysis. 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 showed no evidence of drift due to publication year. The complete

Table 4
Descriptive summary of studies included in this meta-analysis (engagement).

| Citation | Study (first author, date, study or sample number) | sample | country | % female | Age (mean) | N |
|--------------------------------------|----------------------------------------------------|---------------------|-------------|----------|------------|--------|
| (Cable et al., 2013) | Cable 2013 2 | university students | USA | 52 | 22.47 | 179 |
| (De Carvalho Chinelato et al., 2015) | DeCarvalhoChinelato 2015 | employees | Brazil | 66 | 34.9 | 477 |
| (Glavas, 2016) | Glavas 2016 | employees | USA | 48.6 | | 15,184 |
| (Lupton, Rowe, & Whittle, 2015) | Lupton 2015 | employees | UK | 74 | mode:25–34 | 120 |
| (Metin et al., 2016) | Metin 2016 | employees | Netherlands | 32 | 40 | 680 |
| (G. Reis et al., 2016) | Reis 2016 | employees | Brazil | 49 | 32.1 | 208 |
| (Sharp et al., 2015) | Sharp 2015 | employees | NZ | | 24.3 | 140 |
| (van den Bosch & Taris, 2014a) | vandenBosch 2014 A | employees | Netherlands | 63 | 43 | 516 |
| | vandenBosch 2014 B | employees | Netherlands | 64 | 42 | 685 |
| (Yagil and Medler-Liraz, 2013) | Yagil 2013 | employees | Israel | 68 | 28 | 184 |

meta-analysis had a correlation of 0.36 and a cumulative meta-analysis based on the 3 largest studies (accounting for 59% of the relative weight) reported the same effect size estimate of 0.36 (95% CI 0.32 to 0.40). These findings indicate that the impact of publication bias in these meta-analyses is trivial (Borenstein et al., 2009b).

4. Discussion

The main purpose of this study was to provide a synthesis and quantitative summary of the relationship between authenticity and the two important concepts of well-being and engagement. The review included 51 studies covering 75 independent samples with a total of 36,533 participants and meta-analysis indicated significant medium to large positive relationships between authenticity and well-being ($r = 0.4$) as well as authenticity and engagement ($r = 0.37$). In general, the more authentic people are, the greater their well-being and engagement. The size of these effects indicates that authenticity makes a substantial contribution to individual well-being and engagement and may provide a key intervention point for work organisations seeking to improve these outcomes for their workforce. In addition, these relationships were remarkably robust, showing no moderation by gender, age or type of sample (e.g. university student or employed adult). Although researchers and the popular press often recognise the importance of authenticity for younger workers (e.g. Yeager & Callahan, 2016), it seems that this is not a unique concern of the “millennial generation”. Instead, authenticity is equally important to women and men's well-being and does not become more or less important at different ages or in different roles.

Cultural differences, on the other hand, do have a significant effect. Individualism-collectivism is recognised as a major dimension of cultural difference (e.g. Hofstede, 2001) and this meta-analysis demonstrates that individualism is a positive moderator of the relationship between authenticity and well-being. In general, the more collectivist a culture is, the weaker the positive relationship between authenticity and well-being, confirming the suggestion by Datu and Reyes (2015) that in collectivist cultures, an increasing tendency to be true to oneself may come into conflict with a cultural norm of putting the interests of the group above one's own. Recent developments in measuring authenticity from a collectivist perspective (Wang, 2016) emphasise *balance in relationships* rather than the *independence from external influence* that is a hallmark of measures from individualist perspectives. Interventions aimed at improving opportunities for authentic expression at work therefore need to be culturally appropriate in terms of their emphasis on self-expression or social integration.

The effect of different measures of the key concepts was further investigated in this study. Although sub-group analysis was not possible for the engagement studies, measures of both authenticity and well-being affected the strength of the relationship between the two concepts. Authenticity as measured by the Authenticity Inventory (Kernis & Goldman, 2006) showed the strongest relationship with well-being and the Authenticity Scale (Wood et al., 2008) showed the weakest

relationship. Interestingly, these two measures were also the most widely used among the studies in this meta-analysis and the difference in the strength of relationships here again highlights the need for researchers to choose their measure carefully according to the aims of their study. The AI is less strongly tied to the need to be consistent than other measures and may therefore be of more use to researchers who wish to carefully distinguish authenticity from personality consistency. The AS is based on a single model of authenticity drawn from Rogers' humanistic psychology, rather than the broader bases of other measures, and may therefore be more suited to researchers wishing to investigate the effect of authenticity in specific counselling or development contexts. Measures which were included in the *other* category included more recent developments such as the AIRS (Wang, 2016), particularly suited to measuring authenticity in relationships, and the IAS (Knoll et al., 2015) which is notable for its combination of the AI and AS approaches. It should also be noted that simple measures of authenticity (essentially asking respondents to indicate “the extent to which *X* feels authentic”) demonstrated a similar overall relationship with well-being as the whole meta-analysis. Where brevity of the measure is important, for example in repeated or daily measurements of authenticity, a simple item may be sufficient.

There is a vast array of measures of well-being. Linton et al. (2016), in a recent review, identified 99 different measures, not including revisions or updates. In this meta-analysis, only measures evaluating subjective well-being were included and these were grouped into three very broad categories. The simplest measures, assessing only a single element of well-being such as happiness or satisfaction with life, exhibited the smallest relationship with authenticity. As the measures became more extensive or broader based, the strength of the relationship increased. Philosophical understandings of authenticity recognise this by their definitions of authenticity as a whole-of-life activity which engages our true selves and contributes to a holistic “good life” (Hestir, 2008). The findings of this meta-analysis would seem to support this by recognising the greater influence of authenticity for broader conceptualisations of well-being than for the narrower evaluations such as satisfaction. For researchers, the choice of well-being measure should be determined by the level at which one expects to see the effect of authenticity.

Overall, the strength of the relationship between authenticity and well-being seems to be positively influenced by the complexity and reach of the measures used for each concept. Even at their highest, however, these relationships are not strong enough to indicate conceptual equivalence and we can be confident that they do indeed measure distinct concepts.

4.1. Implications

It is widely recognised that there are challenges to authentic behaviour, whether that is in the balancing of organisational and individual demands in the workplace (D. Reis et al., 2016) or in terms of personal or cultural identity (Zhang & Noels, 2013). This meta-analysis

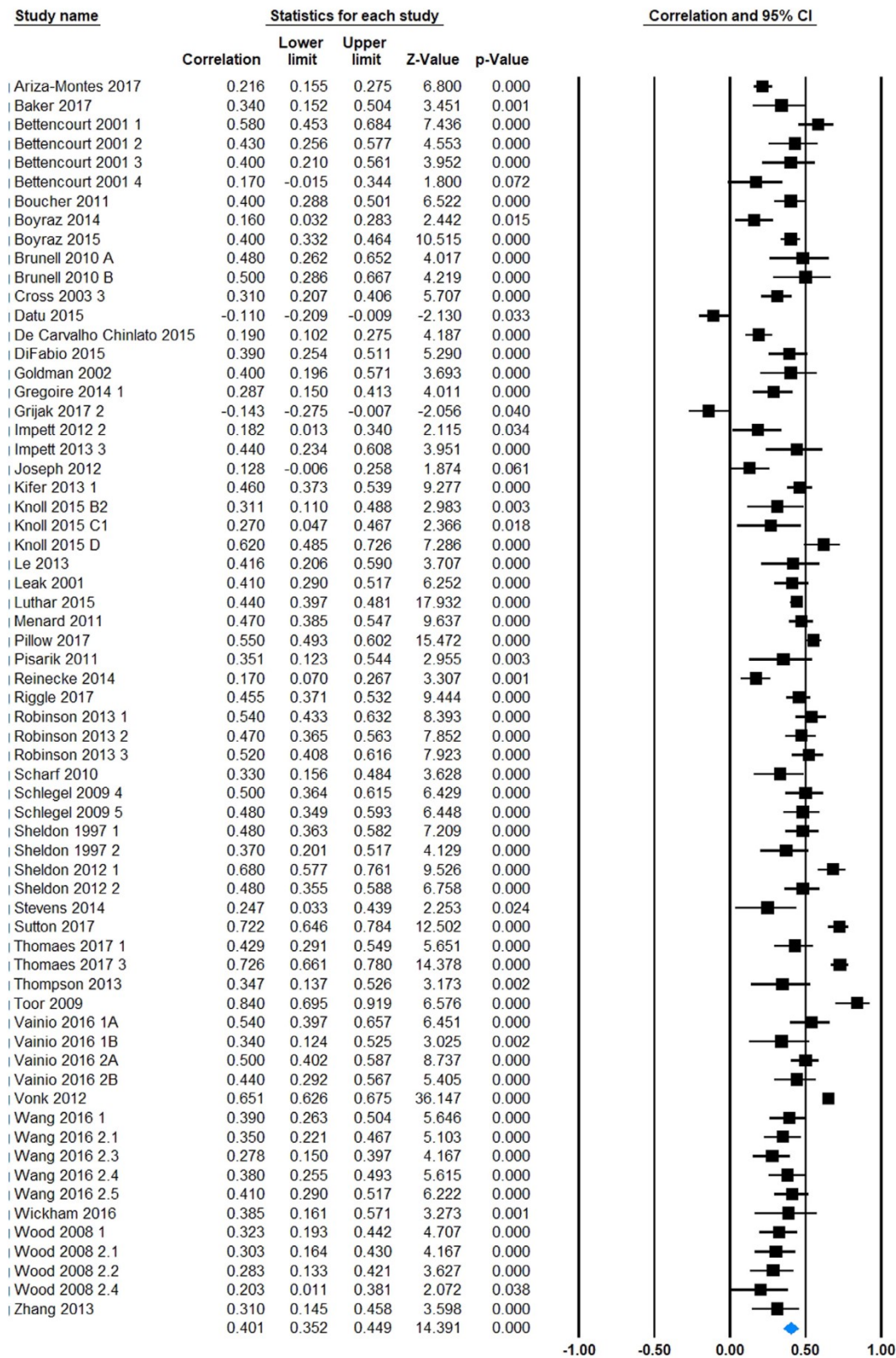


Fig. 2. Forest plot of the authenticity - well-being studies.

demonstrates that, despite these challenges, striving for authenticity is a worthwhile goal with positive connotations for both individual well-being and work engagement.

Authenticity is associated with greater well-being and this is likely due both to its direct effects on well-being and its indirect buffering

effects. While this study cannot draw conclusions about the directionality of the authenticity – well-being relationship, there is emerging evidence that it is unidirectional with authenticity predicting later well-being (Boyraz et al., 2014). In addition, authenticity has been shown to provide a buffering effect against stress and distress experienced when

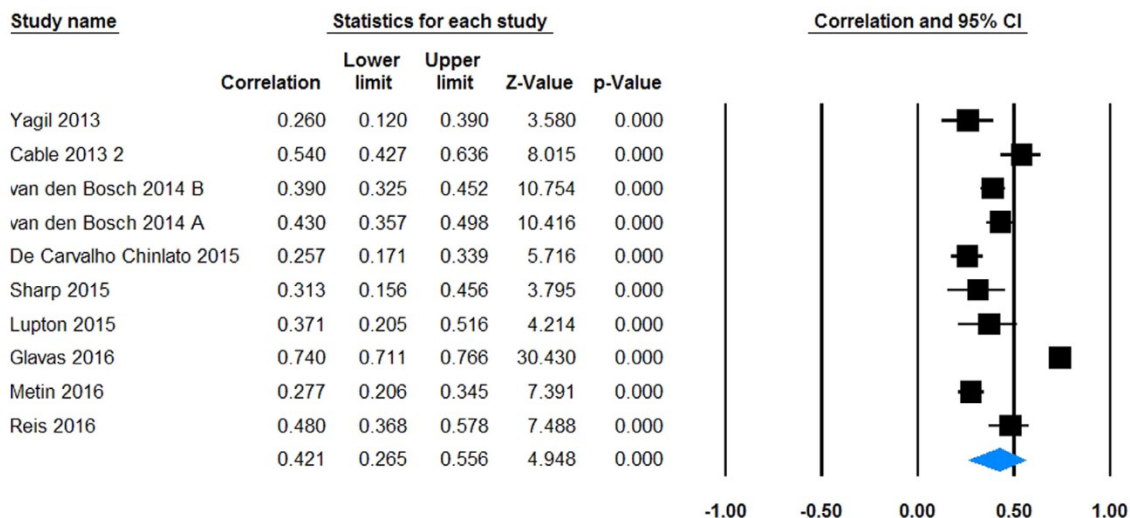


Fig. 3. Forest plot of the authenticity - engagement studies (including outlier).

Table 5
Sub-group analysis by authenticity measure.

| Authenticity measure category | k | r | 95% CI LL | 95% CI UL |
|-------------------------------|----|------|-----------|-----------|
| Authenticity Inventory | 13 | 0.60 | 0.57 | 0.62 |
| Sheldon et al. scale | 8 | 0.44 | 0.39 | 0.48 |
| Simple | 11 | 0.42 | 0.39 | 0.45 |
| Other | 8 | 0.38 | 0.33 | 0.42 |
| Authenticity Scale | 25 | 0.32 | 0.30 | 0.34 |

facing challenge or conflict (e.g. Wickham et al., 2016; Zhang & Noels, 2013). Both philosophers and psychologists also recognise that authenticity has the potential to have some negative impacts on our lives, for example when being true to self causes conflict with others in the social world. However, this meta-analysis demonstrates that the overall impact is a positive one and that the path to well-being includes a significant element of authenticity.

The relationship of authenticity and engagement is particularly noteworthy for work organisations. Friedman and Lobel (2003) have noted a trend for new entrants to the workplace expecting and seeking work that allows them to pursue authentic personal goals as well as earn money. They suggest that organisations which can provide this kind of authenticity-supportive culture will gain competitive advantage because employees who freely choose to work longer hours do not report the negative outcomes on well-being or performance that those who are forced to work longer hours do. Other studies of authenticity at work have also noted that employee authenticity is valued by customers, can enhance service performance and ultimately benefit the organisation (Grandey, 2015; Sharp, Roche, & Cable, 2015; Yagil & Medler-Liraz, 2013).

4.2. Limitations and future research

While this meta-analysis provides a quantitative summary of research in the area, it is limited in certain respects and highlights several avenues for future research. First, the measure of individualism used here is only a proxy and was not based on original scores collected from participants. The moderating effect of culture is therefore only an indication that this area deserves further research rather than a definitive conclusion. Greater precision in the measures will enable the exploration of the dynamics of this relationship as well as to identify other dimensions of culture which may have significant effects on these relationships. While authenticity seems a positive contributor to well-being across the world, different cultures are likely to achieve

authenticity in different ways. Particularly important here is to note that measures of authenticity which include reference to consistency across situations or roles are likely to be less suited to cultures which are more comfortable with dialectical thinking (Boucher, 2011).

Second, while this study has begun to explore the wider context of the “good life” by evaluating the impact of cultural differences on the relationship between authenticity and well-being / engagement, further work on cultural context and global level variables would be welcome. This would be particularly valuable given the well documented negative impact of economic stressors, such as global financial crisis, on employee well-being (Giorgi, Arcangeli, Mucci, & Cupelli, 2015; Mucci, Giorgi, Roncaioli, Perez, & Arcangeli, 2016) and the reduction in access to ‘decent work’ which provides opportunities for authentic experience (Di Fabio & Kenny, 2016). In addition, it is to be anticipated that authenticity may be more or less important to different individuals and the effect of personality traits on this relationship would be a rewarding avenue for future research.

Finally, meta-analysis does not shed light on the mechanisms of the relationships identified here. Exactly how authenticity contributes to well-being and engagement and the extent to which it buffers negative effects or promotes positive outcomes remains for future study.

4.3. Conclusion

This meta-analysis unambiguously concludes that authenticity, or the feeling of being true to oneself, is key to both well-being and employee engagement. As both of these outcomes become increasingly important for measures of economic and societal success, creating the space and encouragement for diverse authentic expressions of self is therefore likely to have wide reaching positive impacts at work and in wider society.

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