



Subgroup specific relations between the goal-striving reasons framework and subjective well-being

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Abstract

People's reasons for goal pursuit strongly relate to well-being. An important concept that captures differences in the reasons for goal pursuit is the goal-striving reasons framework. Until today, it remains unclear whether the goal-striving reasons framework relates differently to the well-being of particular groups of people. Using the positive-activity model as a guiding framework, the paper at hand analyses a number of person-related characteristics which are relevant in a goal-setting context and are assumed to change the relationship between goal-striving reasons and well-being. Employing a large cumulative data set the person-related characteristics comprise of demographic variables (age, gender, managerial status) and selected well-being related variables (assertiveness, burnout, engagement, goal progress). Using correlation analyses in conjunction with Fisher's z-test the results show that contrary to older employees (aged 24 or older) the goal-striving reasons of younger people are not related to their well-being. Women's self-esteem reasons are more strongly related to well-being than they are for men. People's goal-striving reasons are more strongly associated with well-being for people with high levels of assertiveness, low levels of burnout, or high levels of engagement. The findings have implications for the delivery of the Happiness through Goal Setting Training, a Positive Psychology Intervention based on the goal-striving reasons framework, as it identifies various alterations of the training to cater for the needs of these subgroups.

Keywords Goal-striving reasons framework · Subgroups · Engagement · Burnout · Assertiveness · Goal progress · Positive Psychology Intervention

Introduction

Research has conclusively shown that the reasons why people pursue their most important goals in life matter for well-being (Carver & Baird, 1998; Deci & Ryan, 2000; Sheldon et al., 2004). It is therefore important to measure differences in reasons why people pursue their goals. At the same time, scholars argue that the field of Positive Psychology needs to move beyond the analysis of overall effects, and provide more detailed knowledge about the specific effects of Positive Psychology theories and interventions for certain groups of people (Kubzansky et al., 2023). This demand for a deeper, subgroup-specific understanding also applies to one of the latest Positive Psychology concepts that measures the quality of people reasons behind their idiosyncratic goals pursuits:

the *goal-striving reasons framework* (GSRF; Ehrlich, 2012; Iwama et al., 2021; Vansteenkiste et al., 2014). The paper contributes to this research gap by analysing how the relationship between the GSRF and well-being changes depending on person-related features that are particularly relevant in a goal-striving context in which people freely choose goals according to their own preferences. The relevant factors hereby include demographic features such as age, gender and managerial status but also SWB-related variables such as people's engagement levels, burnout levels, their assertiveness levels as well as their goal progress.

Theoretically, the GSRF is based on the combination of two central dimensions within (motivational) psychology: the approach/avoidance dimension and the internal/external dimension. Approach reasons are defined as reasons whereby a person is moving towards a desirable outcome whereas avoidance reasons are characterised by moving away from an undesirable outcome (Elliot et al., 1997). The GSRF further divides approach and avoidance reasons into reasons which are predominantly aimed at improving one's

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Fig. 1 Goal-striving reasons framework (adapted from Ehrlich, 2021)

	Approach	Avoidance
Within-person	Pleasure	Fear of loss of self-esteem
Person-environment	Altruism	Necessity (for financial bare necessities)

own or internal situation (within-person reasons) or reasons that are predominantly aimed at improving an external situation (person-environment reasons). Based on the combination of these two dimensions, the GSRF identifies four goal-striving reasons, each representing one of the four possible quadrants (Fig 1).

The four reasons are: the degree to which people pursue their goals because of the pleasure they get out of it (pleasure); the degree to which their goals are aimed to help others (altruism); the degree to which goals are pursued to avoid feeling bad about oneself (fear of self-esteem loss) and the degree to which goals are pursued to avoid – mostly financial – negative consequences (necessity). Each of the four goal-striving reasons has been clearly identified as an important predictor for people’s *subjective well-being* (SWB) substantiated by a large body of literature.

For example, pursuing goals out of pleasure or experiencing positive emotions during goal pursuit plays a vital role within concepts such as flow (Nakamura & Csikszentmihalyi, 2014), work engagement (Schaufeli, 2012), the broaden-and-build-theory (Fredrickson, 2004), as well as within self-concordance theory (Sheldon & Elliot, 1999). The vast body of literature around those four related constructs has provided conclusive evidence for the importance of positive emotions for people’s subjective well-being and positive psychological functioning. Similarly, the notion of doing good through helping others is seen by many researchers as a key ingredient of a happy life. This is because helping others feels good, not just through the pursuit of altruistic goals as such (Kasser & Ryan, 1993) but also through non-goal related acts of kindness (Dunn et al., 2008; Lyubomirsky et al., 2005a, 2005b).

Fear of losing self-esteem has also attracted a substantial amount of research because of the severe negative consequences for people’s SWB. This is particularly so if a person’s self-worth is dependent on goal success. If this is the case, any failure in people’s (most important) goal pursuits will threaten their self-esteem and is typically associated with lower SWB as this causes higher levels of anxiety, more stress and lower mental health (Crocker & Knight, 2016; Crocker & Park, 2004; Kernis, 2003). Finally, if people strive for their goals out of a need to avoid not having enough financial wealth, then this also contributes negatively to their well-being. This is because their motivation for goal pursuit

is driven by the necessity to avoid an unwanted situation. Whilst there is an argument that in the developed world this should not be such a relevant motivation (given that most people earn enough to satisfy their basic needs), empirical evidence suggests that even reasonably well-off individuals have a feeling of ‘needing more’ to lead a happy life. This, however, is a less fruitful approach to increasing well-being as research has consistently shown that any increases in material wealth beyond the point of basic need-satisfaction only contributes marginally to well-being (Diener & Biswas-Diener, 2002; Kasser, 2016). More importantly, research has also shown that an overly strong focus on material wealth (i.e., strong materialistic values) tends to be negatively associated with well-being (Kasser, 2016; Kasser & Ryan, 1993; Van Boven, 2005) which is why the goal-striving reason of necessity is negatively correlated with SWB even for well-off individuals.

A growing number of empirical studies, using a variety of target groups such as Undergraduate students, Postgraduate students, voluntary sector workers, and public sector workers have shown that the GSRF is a very strong predictor of people’s subjective well-being and positive psychological functioning (Ehrlich, 2012, 2020, 2021; Ehrlich & Bipp, 2016). The GSRF has also been shown to be, in most cases, a better predictor for SWB than the self-concordance theory (Ehrlich, 2018, 2021; Ehrlich & Bipp, 2016) – one of the most widely used models to measure the quality of people’s reasons behind their goals. Thus, the GSRF has proven to be an important alternative concept to measure people’s reasons for goal pursuit that is not based on their degree of autonomous goal pursuit (as measured through self-concordance theory), but on the degree of a person’s approach motivation in relation to their avoidance motivation.

Notwithstanding the relevance of the goal-striving reasons framework for people’s SWB generally, the next logical development step is to analyse whether the GSRF relates differently to SWB when analysing this relationship for specific subgroups. According to the positive-activity model (Lyubomirsky & Layous, 2013) relevant person-centred characteristics for PPIs in general are typically divided into differences in motivation and effort, efficacy beliefs, baseline affective states, personality, social support and demographics. Whilst these overall categories subsume a vast number

of person-related characteristics, the paper at hand focusses on a few selected variables that are particularly important in a goal-setting context when people pursue idiosyncratic goals. It does so by analysing (in an explorative way) the extent to which each of those variables increase or decrease the strength of the relationship between people's goal-striving reasons and well-being.

For example, people's age and whether they manage or lead other people (both demographic variables) as well as people's assertiveness levels (personality variable) are all likely factors that influence the extent to which people actively shape their idiosyncratic goals. Goals and their underpinning goal-striving reasons that are actively shaped should generally be more salient for people's SWB and therefore should lead to a stronger relationship between goal-striving reasons and SWB. Gender, as another important demographic variable, might also be a factor that changes the salience of some goal-striving reasons for well-being as women are shown in the literature to attribute more importance to aspects such as compassion for others resulting in altruistic goal-striving reasons being a stronger correlate of their SWB (Roberts et al., 2011).

People's engagement and burnout levels, i.e. their affective states, are also likely to change how strongly certain goal-striving reasons relate to people's SWB. In the case of highly engaged people, approaching goal-striving reasons, i.e. goal-striving reasons associated with positive affect, should be more salient and more closely related to SWB. Conversely, avoidance goal-striving reasons, i.e. goal-striving reasons associated with negative affect, are likely to be more salient for people's SWB when people display high levels of burnout. Another motivational factor is whether people work successfully towards their goals as this might influence the degree to which their approach or avoidance reasons relate to their well-being. Approach reasons (i.e. positive goal-striving reasons) might be more prominent for people's well-being when they succeed in their goals whilst avoidance goal-striving reasons (i.e. negative goal-striving reasons) might be more salient for their well-being when people struggle with their goals.

To analyse the above mentioned characteristics is important as it helps to understand for whom GSRF is most strongly associated with SWB but also to understand for whom GSRF is not a relevant covariate in relation to SWB. Beyond the analysis of the relationship between GSRF and SWB, it is also important to investigate relationships of the four individual goal-striving reasons and SWB for different subgroups. The analysis into the salience of each individual goal-striving reason will provide important information on how to modify the '*Happiness through Goal-Setting Training*' (HTGST; Ehrlich & Milston, 2022), a training intervention based on the goal-striving reasons framework, in order

to make it as effective as possible for a number of diverse subgroups.

The need to develop a more nuanced understanding about the relationship between the goal-striving reasons framework and SWB concurs with the current call for research in Positive Psychology to increase our understanding about which *Positive Psychology Intervention (PPI)* works best, for whom, and under which circumstances (Fordyce, 1983; Kubzansky et al., 2023; Layous & Lyubomirsky, 2014; Lyubomirsky et al., 2005a, 2005b; van Agteren et al., 2021). It also overcomes the often-stated criticism that PPIs quite often adopt a 'one size fits all' approach, which may not be appropriate for certain types of people and who, as a consequence, do not fully adhere to the intervention, i.e., lack commitment (Bolier et al., 2013). But it is not just the fact that some PPIs might be less effective or indeed ineffective for some individuals. Certain PPIs might indeed even be harmful. For example, gratitude exercises are known to create a sense of guilt or feelings of being indebted to others for their help and therefore can remind people suffering from depression of their own shortcomings during a time they got help from others which can worsen their depression (Fritz & Lyubomirsky, 2018; Siegel & Thomson, 2016).

The arguments presented above indicate a strong need to go beyond the analysis of overall effects and investigate subgroup specific relationships between GSRF and SWB (Lyubomirsky & Layous, 2013). The paper at hand aims to address this call for research. Its primary contribution to theory is twofold. Firstly, to identify different relationships between GSRF and SWB for particular subgroups based on person-related aspects. In order to achieve this, the paper follows a categorisation based on demographic variables (age, gender, managerial status) as well as SWB-relevant variables (assertiveness, burnout, engagement, and goal-progress). Particularly, the latter category of variables has received relatively little attention with regard to subgroup specific effects of PPIs (cf. Bergsma et al., 2020). The second contribution of the paper revolves around highlighting the relevance of the above-mentioned person-related characteristics for the subgroup specific analysis of PPIs in general.

The remainder of the paper is organised as follows. Using the approach of a narrative literature review—which allows to draw together findings from a diverse range of studies (Fan et al., 2022)—related research about the relationship between goal-striving reasons and SWB for the various characteristics in question is presented. The paper then moves on to describe the methodology and to depict the findings of the study. This is followed by a summary and discussion of the findings whereby a particular focus is placed on the theoretical contributions of the findings. The subsequent section then presents the theoretical and practical implications. The theoretical implications mainly revolve around the importance of the identified person-related features and

their importance for the relationship between the GSRF and well-being, but also the role of those person-features in understanding the person-activity fit more widely in the context of other PPIs. The practical implications focus on how to modify the effectiveness of the Happiness through Goal Setting Training based on the relevant person-related features.

Literature review

Research on demographic variables and their relevance for SWB

Age and gender are the most often used demographical variables in psychological research. However, according to Thompson et al. (2015) as well as Lyubomirsky and Layous (2013), there are still some significant gaps in our understanding of how sociodemographic variables, particularly age and gender, play a role in ensuring a good person-activity fit when exposing individuals to PPIs. Another important demographic variable beyond age and gender in the work domain is whether or not individuals hold a management position. This is because the working life of managers differs quite substantially from employees. For example, managers tend to have jobs with higher status and financial rewards but quite often need to trade this off against less spare time or family time (Brockmann et al., 2018). Consequently, the two groups are likely to differ in the reasons for their goal pursuits but, more importantly, those different reasons might also differ in their importance for the SWB of both groups.

Gender

Research suggests that women and men differ in a variety of well-being related aspects, including their reactions to happiness interventions. For example, Peura and Gayton (2012) as well as Kashdan et al. (2009) found that women were more engaged in gratitude exercises and also believed to get more happiness from them than men. This is because men are more likely to see gratitude exercises as a sign of weakness and vulnerability (Thompson et al., 2015). Furthermore, Crossley and Langdrige (2005) found that women ranked “helping others”, i.e., altruistic behaviours, significantly higher than men which also explains why women are more convinced by the power of acts of kindness than men. Overall, these findings suggest that women should rate altruistic goal-striving reasons as more important and therefore their altruistic goal-striving reasons should be more strongly (positively) correlated to their well-being.

Another well-documented difference between men and women is around self-esteem. Research has consistently

shown that on average men report higher levels of self-esteem than women (Bleidorn et al., 2016). However, with regards to the paper at hand, it is more important to understand differences between men and women on their self-acceptance or unconditional self-esteem. Studies in this context have shown that men typically score higher on self-acceptance than women (Matud et al., 2019). Furthermore, men and women also seem to differ in how much their goals are driven by self-esteem reasons. Here, a related study by Morgan and Robinson (2013) indicates that women, relative to men, over time tend to devote more energy towards goals that reflect intrinsic aspirations, which includes their level of self-acceptance. Hence, from these findings, it can be tentatively concluded that self-esteem reasons are likely to be more strongly (negatively) correlated with SWB for women than for men.

Age

Generally, age is an important SWB-related variable despite inconclusive findings on the relationship between age and SWB. Whilst several studies report that older people are generally happier than younger ones (Urry & Gross, 2010), other researchers argue that this is not the case and a more nuanced view about age and SWB is needed (Myers & Diener, 1995; Yang & Leone, 2021). Notwithstanding those differences, age is an important correlate for SWB and therefore likely to influence the strength of the relationship between people’s goal-striving reasons and their well-being. Luckily, in a goal setting context, the literature is a bit clearer as, for example, Carstensen’s (1995) socioemotional selectivity theory suggests that older people learn to structure their lives and pursue particular goals that maximize positive emotions, which is consistent with the argument that people can learn to increase their well-being over time (Sin & Lyubomirsky, 2009). In a similar vein Sheldon and Kasser (2001) showed that age-related increases in well-being are in part mediated by volitional changes, including older people’s ability to select more self-appropriate goals. Thus, based on these research findings it can be reasonably assumed that the relationship between GSRF and SWB will be different for younger and older people. These differences are likely due to the general capacity of older people to align their goals better to their needs rather than based on a specific capacity of older people’s which suggests that their SWB is more strongly associated with all four individual goal-striving reasons. Hence, it can be reasonably assumed that the overall goal-striving reasons index which considers the strength of all four goal-striving reasons simultaneously should be more strongly (positively) correlated with SWB for older people than for younger people.

Managerial status

Although well-being research in the work domain quite frequently distinguishes between employees with or without management responsibilities, there is very little related research around the differences of managers versus employees that provides insights into the different relationship between the GSRF and SWB for these two groups of employees (Skakon et al., 2011). One can, however, state that there is ample evidence that the work-life for managers and employees without management responsibilities differs in a variety of aspects. For example, managers are (on average) more likely to work longer hours (Brett & Stroh, 2003). They are also known to have higher salaries and, due to the nature of their job – managing employees – are in an authoritative position where they are more likely to have reward powers over others (Raven, 1992).

Based on their higher reward power, managers should therefore be in a better position to help others, which suggests a stronger (positive) correlation between their altruistic goal-striving reasons and SWB. The fact that managers have a higher salary suggests that managers are potentially less likely to pursue their goals out of financial necessity, which should result in a weaker (negative) correlation between necessity and SWB for managers. The fact that managers work longer hours than employees suggests that they report enjoying their work more (due to actual enjoyment of their work or due to cognitive dissonance – I spend so much time at work, I must enjoy it). This should result in a stronger (positive) correlation between pleasure and SWB for managers. Overall, the differences presented above tentatively suggest that the relationship between GSRF and SWB is likely to differ between managers and employees.

Research on selected SWB-relevant variables

In addition to subgroups based on demographic variables, there are also individual differences to consider which can affect the relationship between the GSRF and SWB. Following on from Lyubomirsky and Layous (2013) who argue that the effectiveness of PPIs is associated with people's personality, affective well-being states and motivation, the paper looks into selected wellbeing-related variables (assertiveness, burnout, engagement and, goal-progress) which, given their impact on SWB in general, are likely to also impact the relationship between GSRF and SWB.

Assertiveness

Assertiveness is defined as the ability to stand up for your own rights without violating the rights of others (Back & Back, 2005). Generally, assertiveness is positively associated with better subjective well-being (Sarkova

et al., 2013; Segrin & Taylor, 2007). According to Ehrlich (2018), people with higher assertiveness levels also report having better goal-striving reasons which indicates that the right goal-striving reasons do not necessarily occur automatically but that individuals have to overcome resistance from others in order to pursue their goals in such a way that fits with their needs. However, our understanding as to whether people's assertiveness levels also influence the correlational strength between GSRF and SWB remains unanswered. Intuitively, it seems plausible to assume that people who are more capable of shaping their goal pursuits in such a way that they get more happiness out of it also report that their goals are more strongly associated with their SWB. Given that the capability of "shaping one's goals" is again a generic capability and not associated with any specific goal-striving reason, it can be argued that the overall goal-striving reasons index should be more strongly (positively) related to SWB for people with high assertiveness levels compared to people with low assertiveness levels.

Burnout

Burnout is widely defined as a state of an individual who feels a sense of emotional exhaustion and depersonalisation as well as a reduced sense of personal accomplishment (Plutchik, 2006). It is, therefore, not surprising that high levels of burnout are widely associated with low positive psychological functioning in a variety of ways, such as job satisfaction, reduced job commitment, as well as poor health in general (Maslach & Leiter, 2016). Based on these research findings, it seems likely that due to the high levels of exhaustion, people with high levels of burnout find it difficult to invest in any pleasure-increasing activities as they do not feel that sense of resourcefulness (Fredrickson, 2004). Equally, due to their state of exhaustion, they are less likely to have the drive to care for others in their goal-pursuit. Consequently, it seems reasonable to assume that people with high levels of burnout start to judge pleasure and altruistic goal reasons as being less important for their SWB, as these are things they are currently low on and, therefore, feel the need to focus on other things to increase their SWB. Consequently, pleasure and altruism should be weaker (positively) correlated with SWB for people with high burnout levels. Equally, higher levels of depersonalisation are likely to influence the strength of the relationship between people's self-esteem reasons and SWB. This is because high levels of depersonalisation mean people feel indifferent or more detached from their goals. As a consequence, any potential goal failure is hardly affecting their self-esteem, which is why their self-esteem reasons are no longer associated with their SWB. Hence, for people with high levels of burnout, self-esteem reasons should be weaker (negatively) correlated with SWB compared to individuals with low levels of burnout.

Engagement

Engagement is seen as the positive antidote of burnout and is widely defined as a “positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli & Bakker, 2004, p. 295). Engaged individuals have a sense of energetic and effective connection with their work and are able to deal well with the demands of their job (Schaufeli et al., 2006). They also report higher levels of positive psychological functioning (Shuck & Reio, 2013).

One reason for that is the fact that high levels of work engagement are typically associated with a more proactive personality trait among employees and higher levels of job crafting (Vermooten et al., 2019) – both indicating that engaged employees are more likely to shape their work demands (including their work goals) according to their own preferences. Because of this, it seems reasonable to assume that highly engaged individuals should be able to strive for their goals more out of approach reasons (pleasure and altruism), resulting in those reasons being more strongly associated with SWB. This suggests that the correlations between pleasure and altruism should be more strongly (positively) associated with the SWB of highly engaged individuals compared to individuals with low engagement.

At the same time, high levels of engagement also indicate a high level of involvement of the self in relation to work (Bledow et al., 2011). Due to such higher self-involvement (Sonnentag et al., 2010), the fear of not attaining one’s goals should have far stronger consequences for people’s self-esteem for highly engaged employees, resulting in stronger (negative) correlations between the self-esteem reasons and SWB compared to individuals with low work engagement where self-involvement at work is relatively low. Thus, based on the above presented research findings, it can be suggested that pleasure, altruism, and self-esteem should be more strongly correlated with SWB in the case of highly engaged employees. This is because engaged employees are more proactive (increased importance of pleasure and altruistic reasons) and show a higher level of self-involvement (increased importance of self-esteem reasons).

Goal progress

Working successfully towards one’s goals is an important contributor to SWB (Brunstein, 1993; Little, 1983; Lyubomirsky et al., 2005a, 2005b). At the same time the relationship between goal success and SWB is more complex. For example, research has shown that successful goal pursuit does not always increase happiness, or at least that its enhancing effect is not always of the same size, as this depends to a degree on

the kind of goals pursued (Hoppmann & Klumb, 2006; Wiese & Freund, 2005). However, generally speaking, progressing in your goals mostly contributes to SWB when compared to no goal progress. Thus, the process of goal pursuit is most likely experienced very differently depending on one’s goal progress. Low goal progress may make people more pessimistic and potentially question themselves more resulting in lower self-esteem and diminished motivation for their goal pursuit. Based on these arguments it seems reasonable to assume that the correlation between the GSRF and SWB should be different depending on whether people report high or low goal progress. More precisely, for people with high goal progress, the approaching reasons should be very important because if people are making progress on their goals, the fact that they enjoy it and are capable of helping others with their goals should amplify the (positive) correlations between these two approaching reasons and SWB. Whereas for people with low goal progress, the avoidance reasons should be more relevant as those negative reasons are likely to amplify the negative effects of low goal progress (I am trying to avoid feeling bad about myself, but I am not succeeding in my goals; I am trying to overcome financial difficulties, but I am not succeeding in it). Tentative support for this assumption is provided by Ehrlich (2012) who showed that the two approach reasons correlate more strongly with SWB for people with high goal progress whereas the two avoidance reasons correlated more strongly with SWB for those people with low goal progress. Thus, overall, the arguments presented above suggest that goal progress is an important SWB-related variable that is likely to influence the relationship between GSRF and SWB.

Methods

Participants

The data used in this study are derived from various past studies (Ehrlich, 2012, 2021; Ehrlich & Bipp, 2016) as well as data from previous participants of the Happiness through Goal Setting Training where participants are given the opportunity to complete a pre-training questionnaire to receive an individual report about their goal-striving reasons scores along with their cognitive SWB (life satisfaction), affective SWB, work engagement, burnout, and assertiveness scores. All four data sets were selected based on the fact that they all measured people’s goal-striving reasons, their SWB and at least one more of the relevant person-related features which are assumed to change the relationship between goal-striving reasons and SWB. An overview of the number of participants from each of the various data sources is presented in Table 1.

Table 1 Overview of samples reanalysed

	N	Number goals	Online /paper-pencil	General goals / work goals	Description of participants as described in original publication	Variables measured (including unpublished data)
Ehrlich (2012)	169	whi 2	Paper-pencil	General	British university Business School students who were enrolled in one of two modules which both focussed strongly on issues around personal development. Average age: 26 years, SD = 7.18; 63% female, 37% male	Goal-striving reasons, affective SWB (measured with a different SWB measure so has been discarded for paper at hand); cognitive SWB (unpublished data), goal progress
Ehrlich and Bipp (2016)	139	3	Paper-pencil	General	British and Dutch students all of whom were enrolled in modules with a (business) psychology focus. Average age: 35.22 years; SD = 9.98; 73% female, 26% male	Goal-striving reasons, cognitive SWB, affective SWB, goal progress (unpublished data)
Ehrlich (2021)	139	4	Online	General	British native speakers. Average age: 33 years; SD = 9.69; 67% female, 33% male	Goal-striving reasons, cognitive SWB, affective SWB, goal progress, engagement (unpublished data)
Data from Happiness Training	199	4	Online	Work goals	National and international students from a Global MBA programme, Masters in HR or a professional doctorate in Coaching and Mentoring, Employees (academic as well as support staff) from a British University. Average 45 years, SD = 11.20; 84% female, 16% male	Goal-striving reasons, assertiveness, work engagement, burnout, affective SWB, cognitive SWB, goal progress

Participants who did not provide full data points for all variables in question (including unpublished data) have been deleted. This resulted in a smaller sample size than the original sample size reported in the various studies. The revised sample sizes therefore are: Ehrlich (2012) $N = 169$; Ehrlich and Bipp (2016) $N = 139$; Ehrlich (2021), $N = 139$; Happiness Training data $N = 199$. An exception has been made for work engagement data within Ehrlich (2021) as there were only 104 data points available and would have resulted in deletion of $n = 35$ which was not advisable. Demographical information (Age, gender) depicted in Table 1 is based on the reduced sample sizes but are very similar to demographical statistics as reported in the original studies

Table 2 Descriptive statistics of study variables

	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7	8	9	10	11
1) GSRI	646	0.86	3.36	.74		.63**	.49**	-.60**	-.53**	.33**	-.38**	.36**	.46**	.24**	.24**
2) Pleasure	646	4.54	1.36	.76			.38**	-.10	.01	.45**	-.35**	.41**	.43**	.07	.38**
3) Altruism	646	4.26	1.53	.75				.08*	.15**	.35**	-.10	.21**	.19**	.06	-.01
4) Self-esteem	646	3.77	1.50	.77					.32**	-.06	.36**	-.17**	-.35**	-.28**	-.16**
5) Necessity	646	4.17	1.54	.71						.083	.05	-.05	-.11**	-.12	-.02
6) Engagement	303	4.85	1.14	.91							-.56**	.49**	.58**	.28**	.27**
7) Burnout	199	3.23	1.09	.93								-.41**	-.76**	-.31**	-.32**
8) Life Satisfaction	646	4.50	1.28	.86									.52**	.24**	.33**
9) Affect Balance	471	1.09	1.29	.89										.43**	.35**
10) Assertiveness	199	3.70	.77	.84											
11) Goal progress	646	4.00	1.25	.66											.19**

GSRI = Goal-striving reasons index. Necessity is not significant with both outcome variables, however when splitting Affect Balance into Positive and Negative Affect then Necessity is significantly correlated with Negative Affect ($r = .18, p < .01$). Reliability indices are based on people's first two goals for reasons of comparison across studies. This is also the case for all following tables below

* $p < .05$.; ** $p < .01$

Procedure

All data obtained – either from participants of one of the research projects or from participants of the Happiness through Goal Setting Training – was collected in a similar way. Participants were asked to complete a self-administered questionnaire whereby they needed to state their most important work goals. In three studies participants could include their private goals in addition to any work goals (see Table 2). For each of the stated goals participants were asked to answer a similar set of questions measuring their goal-striving reasons. After answering the questions on goal-striving reasons, participants were then asked to answer questions about SWB related variables, such as affective SWB, cognitive SWB, work engagement, burnout, and assertiveness. Some participants were financially rewarded and recruited through an external market research institute (Ehrlich, 2018, 2021) whereas other participants were students from the same research institute to which the respective principal investigators belonged at the time (Ehrlich, 2012; Ehrlich & Bipp, 2016). In this case no financial incentives, or indeed any other form of extrinsic incentive, were offered. Participants of the Happiness through Goal Setting Training were also not offered any financial incentives.

Measures

The goal-striving reasons framework – short form

Goal striving reasons were measured using the short form of the goal-striving reasons questionnaire (Ehrlich, 2020). It contains eight items whereby each of the goal-striving reasons are measured with two items for each goal. The specific items are: “I am having fun working on this goal”; “I actually enjoy

working on this goal quite a lot” (pleasure); “It helps others”, “It serves a good cause” (altruism); “If I fail I would feel like a loser”, “If I fail, other people would look down on me” (fear of self-esteem loss); “It is necessary to earn a living”, “It helps me to make a living” (necessity). The eight items across the number of goals can be aggregated into an overall *goal-striving reasons index (GSRI)* which subtracts the overall sum of approach reasons (pleasure and altruism) from the overall sum of avoidance reasons (self-esteem and necessity).¹ Internal reliability of the short form, based on the various studies available (see Table 2), is reported to range from 0.74 to 0.76 (Ehrlich, 2020). The internal reliability of the short form for the (unpublished) training data used in the paper at hand is 0.87.²

Outcome variable: Affective SWB

Affective SWB was measured with the PANAS scale (Watson et al., 1988). Participants rated to what extent they felt ten positive affects (e.g., active, enthusiastic) and ten negative affects (e.g., sad, depressed) within the last month. The answer scale ranges from (1) “very slightly or not at all” to (5) “extremely”. The measurement of positive and negative affect also allows for the calculation of an overall affect measure – affect balance – which is

¹ This procedure follows the same procedure employed to calculate an overall self-concordance score as reported in Sheldon and Hoon (2007).

² For further information about reliability and validity analyses in relation to the two key measures (GSRI, SWB) please refer to the following literature (for GSRI please see Ehrlich, 2020; for SWLS please see Diener et al., 1985; for PANAS please see Watson et al., 1988).

generated by subtracting the negative affect scores from the positive affect scores.

Outcome variable: Cognitive SWB

To measure cognitive SWB the study employed the Satisfaction with Life Scale (SWLS) by Diener et al. (1985). The five-item scale has strong internal reliability and is commonly used to measure overall life satisfaction. Participants need to answer each item on a scale from (1) “strongly disagree” to (7) “strongly agree”.

SWB related variable: Assertiveness

Assertiveness was measured using the 19-item Simple Rathus Assertiveness Schedule (SRAS). Participants are required to answer on a six-point Likert scale from (3) “very much like me” to (-3) “very much unlike me”. The scale is reported with an internal reliability of 0.85 (Jenerette & Dixon, 2010). For data analysis purposes the original scale was transformed into a 1–6 scale where a higher score represents higher levels of assertiveness.

SWB related variable: Burnout

To measure burnout the study employed the Shirom-Melamed Burnout Measure (SMBM) which is a 14-item measure that conceptualises burnout as an individual’s feelings of physical, emotional, and cognitive exhaustion due to the chronic exposure to occupational stress. It is reported to have high internal reliability (Shirom & Melamed, 2006). Participants need to answer the items on a seven-point Likert scale ranging from (1) “never; almost never” to (7) “always; almost always”. Examples of items are “I am tired” or “I feel like my batteries are dead”.

SWB related variable: Work engagement

Work engagement was measured using the short form (nine items) of the Utrecht Work Engagement Scale (UWES) which measures work engagement along the dimensions of vigor, dedication, and absorption (Schaufeli et al., 2006). The form is reported to have high internal reliability (Schaufeli et al., 2006). Items are answered on a seven-point Likert scale ranging from (1) “never” to (7) “always; every day”. Examples of items featuring are: “At my work I feel bursting with energy” (vigor); “I am immersed in my work” (absorption) or “I find the work that I do full of meaning and purpose” (dedication).

SWB related variable: Goal progress

The goal progress measure consisted of a single item measure for each of the reported goals (How successfully are you working towards this goal at the moment?). Participants had to answer on a five-point Likert scale ranging from (1) “not at all” to (5) “very much”.

Results

The results presented are based on comparisons of correlation coefficients between GSRI or individual goal-striving reasons and SWB for the various subgroups in question. As the actual differences in mean scores between the selected subgroups are of less interest in relation to the overall research question (subgroup-specific differences in the relational strength between GSRI and SWB), no independent t-tests were conducted. The method of choice to test for significant differences between different correlation coefficients is therefore Fisher’s z-test for independent samples. On all SWB-related variables (assertiveness, burnout, engagement, goal progress) participants have been categorised as high or low based on a mean split. The relevant means scores are reported in Table 2.

Descriptive statistics of main study variables

Table 2 presents the descriptive statistics for the overall sample (no differentiation between subgroups). The results show that GSRI is significantly correlated with cognitive and affective SWB. Similarly, the four individual goal-striving reasons are all significantly correlated with SWB apart from necessity. This is due to the fact that necessity – when looking at the overall sample – is significantly correlated with negative affect ($r = 0.18, p < 0.01$) but not with positive affect which is why necessity overall is not significantly correlated with Affect Balance. However, looking into various subgroup specific correlations, necessity is at times significantly related to SWB.

Differences in the relationship between GSRI and SWB for different age groups

Table 3 reveals differences in the relationship between GSRI and SWB when differentiating between young (18–23 years), middle aged (24–54), and old (54–85) individuals. Particularly striking is the fact that the 18–23 year old age group showed no significant correlations between GSRI and cognitive or affective SWB whereas both older groups did. Looking at the differences in the strength of

Table 3 Descriptive statistics and correlations between goal-striving reasons and SWB for various age groups

Age 18–23	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	112	-.94	3.08	.70		.62**	.47**	-.59**	-.54**	.12	.17
2) Pleasure	112	4.38	1.21	.69			.30**	-.07	-.08	.27**	.24
3) Altruism	112	3.73	1.49	.75				.13	.15	.09	.11
4) Self-esteem	112	4.12	1.50	.75					.31**	-.10	-.05
5) Necessity	112	4.93	1.34	.60						.17	-.01
6) Life Satisfaction	112	4.48	1.19	.82							.41**
7) Affect Balance	27	.86	1.19	.86							
Age 24–54	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	444	1.11	3.28	.75		.66**	.47**	-.59**	-.48**	.44**	.49**
2) Pleasure	444	4.58	1.40	.78			.39**	-.12*	.01	.44**	.44**
3) Altruism	444	4.27	1.54	.75				.11**	.23**	.25**	.19**
4) Self-esteem	444	3.76	1.50	.77					.30**	-.18**	-.38**
5) Necessity	444	3.98	1.50	.68						-.10*	-.12*
6) Life Satisfaction	444	4.51	1.32	.87							.52**
7) Affect Balance	367	1.09	1.33	.89							
Age 55–85	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	43	2.50	3.41	.79		.59**	.44**	-.61**	-.64**	.35**	.33**
2) Pleasure	43	4.23	1.38	.80			.40**	.06	-.01	.28	.36**
3) Altruism	43	5.00	1.32	.77				.13	.10	.14	.15
4) Self-esteem	43	3.09	1.47	.80					.42**	-.22	-.19
5) Necessity	43	3.64	1.71	.86						-.17	-.08
6) Life Satisfaction	43	4.19	1.19	.81							.40**
7) Affect Balance	42	1.20	1.22	.87							

* $p < .05$.; ** $p < .01$

correlations between any of the four goal-striving reasons and SWB for the 18–23 year olds, it can be noted that most correlations are not significant – with the exception of pleasure and cognitive SWB ($r = 0.27, p < 0.01$). Hence, the fact that GSRI is mostly not significantly correlated with SWB cannot be attributed to any specific goal-striving

reasons but to the fact that young people’s goal-striving reasons are overall not strongly related to their SWB. For the two older subgroups the findings are less conclusive, but tentatively indicate that the four goals-striving reasons are more strongly correlated with SWB when compared to the 18–23 year olds.

Table 4 Correlations between goal-striving reasons and SWB for men and women

Female	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	467	.89	3.40	.75		.64**	.49**	-.58**	-.52**	.38**	.49**
2) Pleasure	467	4.52	1.38	.76			.41**	-.12	.01	.41**	.42**
3) Altruism	467	4.24	1.57	.76				.12**	.16**	.22**	.18**
4) Self-esteem	467	3.77	1.52	.77					.31**	-.20**	-.40**
5) Necessity	467	4.10	1.58	.71						-.06	-.13*
6) Life Satisfaction	467	4.58	1.32	.87							.53**
7) Affect Balance	437	1.09	1.30	.89							
Male	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	178	.78	3.26	.71		.59**	.50**	-.64**	-.58**	.30**	.36**
2) Pleasure	178	4.59	1.32	.78			.27**	.06	-.07	.46**	.46**
3) Altruism	178	4.31	1.44	.73				.03	.15	.18**	.23**
4) Self-esteem	178	3.76	1.47	.79					.33**	-.08	-.14
5) Necessity	178	4.35	1.45	.70						.01	-.02
6) Life Satisfaction	178	4.31	1.16	.79							.48**
7) Affect Balance	113	1.12	1.27	.88							

* $p < .05$.; ** $p < .01$

Table 5 Correlations between goal-striving reasons and SWB for managers and non-managers

Managers	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	92	1.61	3.59	.73		.63**	.49**	-.67**	-.63**	.41**	.46**
2) Pleasure	92	4.56	1.44	.81			.34**	.16	.14	.43**	.49**
3) Altruism	92	5.37	1.20	.72				-.03	.01	.32**	.17
4) Self-esteem	92	3.84	1.61	.84					.34**	-.18*	-.28**
5) Necessity	92	4.47	1.51	.85						-.12	-.19
6) Life Satisfaction	92	4.65	1.37	.91							.60**
7) Affect Balance	92	1.23	1.32	.91							
Non-managers	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	106	1.42	3.19	.80		.47**	.51**	-.63**	-.55**	.39**	.33**
2) Pleasure	106	4.59	1.34	.82			.47**	.10	.14	.34**	.30**
3) Altruism	106	5.13	1.22	.74				.02	.12	.30**	.16
4) Self-esteem	106	4.02	1.64	.85					.32**	-.16	-.35**
5) Necessity	106	4.27	1.59	.82						-.09	.07
6) Life Satisfaction	106	4.43	1.36	.88							.46**
7) Affect Balance	106	.91	1.34	.90							

* $p < .05$; ** $p < .01$

Differences in the relationship between GSRI and SWB based on gender

With regards to gender differences, the findings in Table 4 indicate that GSRI is descriptively more strongly correlated with SWB for women than for men. The differences in affective SWB are hereby significant (SWB: $r_{\text{female}} = 0.49$; $r_{\text{male}} = 0.36$, $z = 1.79$, $p < 0.05$) based on Fisher’s z-test for independent samples. The differences in cognitive SWB ($r_{\text{female}} = 0.38$; $r_{\text{male}} = 0.30$, $z = 1.02$, $p = 0.15$) indicate the same trend but are not significant.

Looking more closely into the relationship between the four goal-striving reasons and their relationship with SWB it can be noted that self-esteem is the goal reason that stands out the most. Women’s cognitive as well as affective SWB is significantly related to self-esteem whereas men show no significant relation between self-esteem reasons and their SWB ($r_{\text{female}} = -0.20$, $p < 0.01$, $r_{\text{male}} = -0.08$, $p = 0.08$; $r_{\text{female}} = -0.40$, $p < 0.01$; $r_{\text{male}} = -0.14$, $p = 0.11$).³ Thus, women’s SWB is associated with self-esteem reasons whereas men’s SWB is not related to self-esteem reasons.

Differences in the relationship between GSRI and SWB for management versus non-management

Table 5 shows that the correlation between GSRI and SWB is descriptively higher for managers than for non-managers, although these differences were not significant (cognitive SWB: $r_{\text{manager}} = 0.41$, $r_{\text{employees}} = 0.39$, $z = 0.16$, $p = 0.43$; affective SWB: $r_{\text{manager}} = 0.46$, $r_{\text{employees}} = 0.33$, $z = 1.06$,

$p = 0.14$). Upon closer examination, pleasure stands out as a goal-striving reason that is more strongly correlated with affective SWB for managers than it is for employees ($r_{\text{manager}} = 0.49$, $r_{\text{employees}} = 0.30$, $z = 2.18$, $p = 0.05$). This is also the case for cognitive SWB, but both differences are not significant ($r_{\text{manager}} = 0.43$, $r_{\text{employees}} = 0.33$, $z = 0.73$, $p = 0.23$).

Differences in the relationship between GSRI and SWB for people with high or low assertiveness

The findings in relation to the correlational strength between GSRI and SWB for people with different assertiveness levels indicate that GSRI is more strongly related to SWB for people with high assertiveness levels compared to people with low assertiveness levels (see Table 6). However, those differences, although descriptively quite large, are not statistically significant (cognitive SWB: $r_{\text{high assertive}} = 0.44$, $r_{\text{low assertive}} = 0.29$, $z = 1.20$, $p = 0.11$; affective SWB: $r_{\text{high assertive}} = 0.43$, $r_{\text{low assertive}} = 0.25$, $z = 0.142$, $p = 0.07$).

Looking more closely into which of the specific goal-striving reasons contribute most to this difference it can be noted that the two approaching reasons (pleasure and altruism) are the ones that descriptively show much stronger correlations with cognitive and affective SWB for people with high assertiveness levels compared to individuals with low assertiveness levels. Those differences in correlation are significant for pleasure and cognitive SWB ($r_{\text{high assertive}} = 0.54$, $r_{\text{low assertive}} = 0.19$, $z = 2.86$, $p < 0.01$) as well as affective SWB ($r_{\text{high assertive}} = 0.49$, $r_{\text{low assertive}} = 0.27$, $z = 1.80$, $p < 0.05$). They are also significant for altruism and affective SWB ($r_{\text{high assertive}} = 0.31$; $r_{\text{low assertive}} = 0.02$; $z = 2.08$, $p < 0.01$) but not for cognitive SWB ($r_{\text{high assertive}} = 0.38$; $r_{\text{low assertive}} = 0.22$; $z = 1.22$,

³ Fisher Z analysis is omitted in this case as the correlation for self-esteem is significant for women but not for men.

Table 6 Correlations between goal-striving reasons and SWB for people high or low on assertiveness

Low on assertiveness	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	99	.79	2.84	.77		.60**	.39**	-.57**	-.50**	.29**	.25**
2) Pleasure	99	4.47	1.34	.82			.34**	-.02	.04	.19	.27**
3) Altruism	99	5.15	1.23	.72				.14	.26**	.22*	.02
4) Self-esteem	99	4.30	1.39	.78					.26**	-.13	-.31**
5) Necessity	99	4.30	1.45	.81						-.08	.07
6) Life Satisfaction	99	4.27	1.33	.90							.43**
7) Affect Balance	99	.57	1.25	.87							
High on assertiveness	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	100	2.25	3.70	.76		.53**	.60**	-.67**	-.63**	.44**	.43**
2) Pleasure	100	4.68	1.41	.83			.46**	.01	-.01	.54**	.49**
3) Altruism	100	5.37	1.20	.74				-.14	-.06	.38**	.31**
4) Self-esteem	100	3.55	1.77	.88					.34**	-.13	-.25**
5) Necessity	100	4.22	1.64	.84						-.09	-.06
6) Life Satisfaction	100	4.78	1.35	.89							.56**
7) Affect Balance	100	1.56	1.25	.89							

* $p < .05$.; ** $p < .01$

$p = 0.11$). Overall, the findings reveal that the two approaching reasons relate more strongly SWB when people report high levels of assertiveness.

Differences in the relationship between GSRI and SWB for people with high or low burnout

The results for burnout generally indicate that for people with low burnout, GSRI is more strongly associated with cognitive and affective SWB than it is for people with high levels of burnout (see Table 7). The correlation coefficients are, however, only descriptively stronger for individuals with low burnout compared to individuals with high burnout (cognitive SWB: $r_{\text{low burnout}} = 0.38$, $r_{\text{high burnout}} = 0.17$, $z = 1.58$, $p = 0.05$; affective SWB: $r_{\text{low burnout}} = 0.39$, $r_{\text{high burnout}} = 0.25$, $z = 0.108$, $p = 0.13$).

Looking more closely into differences in the relationship between the four individual goal-striving reasons and SWB, the results show that the relationship between self-esteem reasons and SWB is significant for people reporting low burnout (cognitive SWB: $r_{\text{low burnout}} = -0.22$, $p < 0.01$; affective SWB: $r_{\text{low burnout}} = -0.27$, $p < 0.01$). However, self-esteem reasons are not significantly related to cognitive or affective SWB for people with high burnout (cognitive SWB: $r_{\text{high burnout}} = 0.06$, $p = 0.51$; affective SWB: $r_{\text{high burnout}} = -0.18$, $p = 0.07$).

Differences in the relationship between GSRI and SWB for people with high or low engagement

The findings for engagement are, on an overall GSRI level, similar to the ones for burnout, which is not surprising as

Table 7 Correlations between goal-striving reasons and SWB for people high or low on burnout

Low on burnout	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	106	2.53	3.18	.78		.49**	.48**	-.68**	-.54**	.39**	.38**
2) Pleasure	106	4.93	1.25	.79			.43**	.02	.10	.30**	.34**
3) Altruism	106	5.34	1.20	.72				-.07	.21*	.29**	.30**
4) Self-esteem	106	3.52	1.61	.84					.32**	-.22**	-.27**
5) Necessity	106	4.22	1.59	.84						-.08	-.01
6) Life Satisfaction	106	5.01	1.15	.88							.35**
7) Affect Balance	106	1.81	1.04	.87							
High on burnout	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	93	.38	3.24	.76		.54**	.54**	-.55**	-.63**	.25**	.17
2) Pleasure	93	4.16	1.41	.83			.38**	.08	.02	.32**	.23*
3) Altruism	93	5.15	1.23	.74				.05	-.06	.31**	.03
4) Self-esteem	93	4.38	1.53	.84					.29**	.06	-.18
5) Necessity	93	4.54	1.49	.81						-.06	.06
6) Life Satisfaction	93	3.97	1.38	.88							.44**
7) Affect Balance	93	.22	1.13	.84							

* $p < .05$.; ** $p < .01$

Table 8 Correlations between goal-striving reasons and SWB for people high or low on work engagement

Low on work engagement	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	140	.09	3.03	.68		.58**	.48**	-.62**	-.53**	.30**	.09
2) Pleasure	140	3.94	1.28	.73			.25**	-.05	-.05	.37**	.20*
3) Altruism	140	4.35	1.34	.70				-.03	.17*	.19*	-.16
4) Self-esteem	140	4.09	1.38	.72					.26**	-.01	-.18*
5) Necessity	140	4.10	1.42	.73						-.11	-.01
6) Life Satisfaction	140	3.85	1.11	.77							.27**
7) Affect Balance	140	.22	1.09	.82							
High on work engagement	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	163	2.00	3.21	.77		.54**	.47**	-.65**	-.54**	.39**	.48**
2) Pleasure	163	4.97	1.25	.78			.44**	-.02	.08	.28**	.27**
3) Altruism	163	5.18	1.32	.74				.02	.20*	.26**	.21**
4) Self-esteem	163	3.89	1.60	.82					.33**	-.26**	-.39**
5) Necessity	163	4.26	1.58	.77						-.10	-.20**
6) Life Satisfaction	163	4.98	1.25	.88							.43**
7) Affect Balance	163	1.59	1.09	.87							

* $p < .05$.; ** $p < .01$

engagement and burnout are often termed the flipside of each other (Schaufeli & Bakker, 2004). Consequently, for people with low engagement, GSRI is slightly less correlated with measures for SWB than for people with high engagement (Table 8). In the case of affective SWB, this difference is significant ($r_{\text{high engagement}} = 0.48$, $r_{\text{low engagement}} = 0.09$, $z = 3.71$, $p < 0.01$), which could be expected as burnout is an affective measure towards work. With regards to cognitive SWB, the differences are not significant, but for people with high work engagement, GSRI is descriptively more strongly correlated with SWB than it is for people with low engagement ($r_{\text{high engagement}} = 0.39$, $r_{\text{low engagement}} = 0.30$, $z = 0.87$, $p = 0.19$).

On an individual goal-striving reasons level, the findings reveal that people with high and low work engagement differ significantly in relation to the importance of self-esteem reasons. For highly engaged individuals, self-esteem relates significantly to their SWB, which is not the case for low engaged individuals (cognitive SWB: $r_{\text{high engagement}} = -0.26$, $r_{\text{low engagement}} = 0.01$; $z = 2.20$, $p < 0.01$; affective SWB: $r_{\text{high engagement}} = -0.39$, $r_{\text{low engagement}} = -0.18$; $z = 1.97$, $p < 0.01$).

Differences in the relationship between GSRI and SWB for people with high or low goal progress

With regards to goal progress, the findings show that there is very little overall difference in the strength of the

Table 9 Correlations between goal-striving reasons and SWB for people high or low on goal progress

Low on goal progress	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	311	.17	3.32	.73		.61**	.51**	-.59**	-.54**	.36**	.33**
2) Pleasure	311	4.08	1.36	.77			.37**	-.07	-.01	.36**	.31**
3) Altruism	311	4.23	1.50	.74				.07	.13*	.26**	.07
4) Self-esteem	311	3.98	1.48	.75					.33**	-.16**	-.24**
5) Necessity	311	4.16	1.51	.71						-.05	-.12*
6) Life Satisfaction	311	4.10	1.34	.86							.45**
7) Affect Balance	261	.74	1.28	.88							
High on goal progress	<i>n</i>	<i>M</i>	<i>SD</i>	α	1	2	3	4	5	6	7
1) GSRI	335	1.50	3.28	.74		.60***	.50**	-.58**	-.54**	.29**	.53**
2) Pleasure	335	4.97	1.22	.70			.42**	-.06	.01	.34**	.45**
3) Altruism	335	4.29	1.57	.76				.10	.17**	.17**	.33**
4) Self-esteem	335	3.57	1.50	.78					.31**	-.11*	-.39**
5) Necessity	335	4.18	1.58	.71						-.05	-.06
6) Life Satisfaction	335	4.88	1.11	.82							.49**
7) Affect Balance	210	1.54	1.16	.87							

Table 10 Correlations between goal-striving reasons and SWB based on high and low positive psychological functioning individuals

High on psych. functioning				α	1	2	3	4	5	6	7
1) GSRI	<i>n</i>	<i>M</i>	<i>SD</i>	.79	1	.45**	.48**	-.67**	-.58**	.38**	.43**
2) Pleasure	135	2.24	3.15	.77			.45**	.07	.11	.28**	.25**
3) Altruism	135	4.96	1.16	.75				-.01	.13*	.30**	.22**
4) Self-esteem	135	5.40	1.20	.85					.33**	-.20**	-.36**
5) Necessity	135	3.76	1.63	.85						-.10	-.13
6) Life Satisfaction	135	4.36	1.60	.88							.44**
7) Affect Balance	135	4.92	1.19	.87							
Low on psych. functioning				α	1	2	3	4	5	6	7
1) GSRI	<i>n</i>	<i>M</i>	<i>SD</i>	.70	1	.59**	.47**	-.60**	-.66**	.20	-.01
2) Pleasure	64	.31	3.37	.83			.22	-.01	.17	.21	.10
3) Altruism	64	3.76	1.46	.68				.00	-.04	.19	-.17
4) Self-esteem	64	4.93	1.21	.84					.29**	.04	-.20
5) Necessity	64	4.26	1.59	.79						-.13	.22
6) Life Satisfaction	64	4.39	1.45	.88							.25*
7) Affect Balance	64	3.69	1.33	.80							
	64	-.07	1.06								

relationship between GSRI and SWB for people who are progressing successfully with their goals compared with those who are not (see Table 9).

On an individual goal-striving reasons level, the results reveal that necessity is significantly correlated with people's affective SWB when they report low goal progress ($r = -0.12$; $p < 0.05$), whereas this is not the case for people with high goal progress ($r = -0.06$, $p = 0.37$).⁴ Conversely, altruism is not significantly related to affective SWB for people with low goal progress ($r = 0.07$, $p = 0.20$), but it is significantly related to SWB for individuals with high goal progress ($r = 0.33$; $p < 0.01$).

Differences in correlational strength between GSRI and SWB for people with high levels of positive functioning and people with low levels of positive functioning

Finally, the correlation between GSRF and SWB has also been analysed when allocating people into clusters based on how they score on the various SWB-related variables using K-means cluster analysis. Theoretically, a distinction into two clusters which separate those who score high on the selected SWB-related variables in question (high on engagement, low on burnout, high on assertiveness and high on goal progress) from participants who scored low on these variables provide the most meaningful differential clusters. The two clusters can widely be described as people with high or low positive psychological functioning (Table 10).

⁴ Fisher Z analysis is again omitted as the correlation for low goal success is significant whereas the correlation for high goal success is not significant.

The results mirror the findings obtained when analysing the relationship between GSRF and SWB for all SWB-related variables separately. GSRI is significantly related to cognitive and affective SWB for people who report relatively high levels of positive psychological functioning. Conversely, GSRI is not significantly related to any of the two forms of SWB when people report relatively low positive psychological functioning. This is also mirrored on an individual goal-striving reasons level where pleasure, altruism, and self-esteem are significantly related to cognitive and affective SWB for people with high positive psychological functioning but not for people with low psychological functioning. Necessity, on the other hand, is not significantly correlated to SWB for any of the two clusters indicating that a more nuanced analysis in relation to positive and negative affect is required.

Summary and discussion

The findings demonstrate that the goal-striving reasons framework relates differently to SWB for a wide range of person-related characteristics. Thus, the findings make an important theoretical contribution by identifying those specific person-related characteristics that do change the relationship between people's goal-striving reasons and SWB. This offers a narrower list of person-related features specifically relevant to people's idiosyncratic goal-striving reasons compared to the list within the positive-activity model (Lyubomirsky & Layous, 2013) which gives an overview of person-features relevant for all Positive Psychology concepts and interventions. At the same time, the person-related characteristics identified in the paper at hand do not claim to be comprehensive, thus other person-related variables might also be relevant in a goal-setting context.

With regards to age, the results show that GSRI is strongly related to SWB for people aged 24 and older but not for people younger than 24 years of age. This is in line with the literature which states that older people find it easier to mould and shape their goals according to their preferences (Carstensen, 1995; Sheldon & Kasser, 2001). Younger people are less capable or have fewer opportunities to shape their reasons for goal-pursuit according to their own wishes. This suggests that, for young people, goal-reasons might be less important for their SWB. Thus, other non-goal related concepts such as their mindfulness levels (Bajaj et al., 2016) or their level of social support (Siedlecki et al., 2014) might be better correlates to understand what variables are associated with young people's SWB. Overall, the findings show that age is an important person-feature that determines to which degree people's goal-striving reasons relate to SWB. Furthermore, the non-existing relationship between goal-striving reasons and SWB for young people seems to be associated with a general capability to set goals that reflect one's preferences rather than due to any specific goal-striving reason.

With regards to gender differences, the results suggest that women's GSRI is slightly stronger related to SWB compared to men's although this difference is not significant. The analysis at the level of individual goal-striving reasons revealed that particularly self-esteem as a driver behind people's goals is only related to women's SWB and not to men's SWB. Support for this notion is found in the literature that states that women are more sensitive than men to self-esteem around a variety of issues, for example appearance or body weight (Pliner, et al., 1990). This provides some tentative explanation as to why 'fear of self-esteem loss' is more important for women than for men in relation to SWB. However, it remains unclear as to why self-esteem reasons are not significantly related to men's SWB. More research in this context is needed. A possible explanation can be offered be around the notion that men have a stronger tendency to downplay or deny any negative consequences for their self-esteem due to non-attainment of their goals. In other words, men might struggle to admit their vulnerabilities in the event of a potential goal failure, which would explain why their self-esteem is not related to SWB. A similar explanation is given for the fact that men engage less in gratitude exercises as this reminds them of a time where they needed help and therefore of a time of vulnerability and weakness (Thompson et al., 2015). Overall, the findings around gender indicate that women and men show considerable differences in how much their goal strivings based on self-esteem matters for their SWB. Therefore, gender is an important person-feature to understand the relation between people's goal-striving reasons and SWB.

The results further reveal that for managers, as opposed to employees, the relationship between GSRF and SWB does

not differ significantly, although descriptively the relationship is slightly stronger for managers. However, as these differences are not significant, it can be concluded that the GSRF is equally relevant for both groups and therefore whether people have management responsibilities or not is not a relevant person-feature for the relationship between GSRF and SWB.

In relation to assertiveness, the findings show that for people with high or low levels of assertiveness, the correlative strength between GSRI and SWB differs. For individuals with high assertiveness levels, GSRI was descriptively a stronger correlate to SWB (though not statistically significant). These differences, looking at an individual goal-striving reasons level, were due to the differences in the correlational strength between the two approaching reasons (pleasure and altruism), which correlated significantly with the SWB of highly assertive people but not with SWB of non-assertive individuals. This suggests that people who score low on assertiveness do not ascribe pleasure and altruism with sufficient importance for their SWB. It can be argued that this is because people who score low on assertiveness find it more difficult to set themselves approaching goals that reflect their needs and wants. If an individual is less capable of asserting their own wishes, then maybe the pursuit of goals that express a person's needs and wants becomes less important for that individual and therefore is less strongly associated with their SWB. Overall, the findings reveal that differences in assertiveness levels are an important person-feature that determines how strongly people's approach goal-striving reasons relate to their SWB.

With regards to burnout, the findings show that the relationship between SWB and GSRI is slightly stronger for people with low levels of burnout, but this difference is not significant. The most important significant difference is around self-esteem reasons. Self-esteem reasons relate significantly to SWB for people with low burnout but not for people with high burnout. There is very little related research as to why this is the case. Thus, more research is needed in this context. However, the most likely explanation for this difference is around the fact that high levels of burnout are associated with high levels of depersonalisation. This suggests that highly burned-out individuals are more detached from their goals, and therefore any danger of loss of self-esteem no longer has significant implications for their SWB. Overall, the findings show that burnout is a relevant person-feature that determines to which degree people's self-esteem reasons matter for their SWB.

In relation to work engagement, the findings reveal that GSRI is more strongly related to SWB for highly engaged people. On an individual goal-striving reasons level, similar to burnout, self-esteem reasons reveal the most striking difference. Self-esteem is only related to SWB for highly engaged individuals. In the case of low

engaged individuals, self-esteem reasons are not related to SWB. This suggests that individuals with low engagement, due to their lower self-involvement with work (Bledow et al., 2011; Sonnentag et al., 2010), attribute less importance to the work domain and therefore the desire to avoid failure in one's work goals is less important to those individuals. In this context it is also noteworthy that the explanation for the non-significant relationship between self-esteem and SWB is very similar for individuals with high burnout or low work-engagement. In both cases, the explanation revolves around a sense of detachment from work either because of depersonalisation or low self-involvement. Therefore, similar to burnout, engagement is a relevant person-feature that determines how much people's self-esteem reasons relate to their SWB.

The findings in relation to goal progress partially replicate the findings in Ehrlich (2012). For people with good goal progress, altruistic goal reasons are more strongly associated with SWB when compared to people reporting low goal progress. Conversely, necessity reasons correlate more strongly with SWB for individuals who report low goal progress when directly compared with people reporting high goal progress. The findings in relation to pleasure and self-esteem, however, do not show these relations as both reasons are equally important for people with high or low goal progress. Thus, the findings here are inconclusive with regards to goal progress. Based on related research (see Ehrlich, 2012) one would expect that both approach reasons are particularly related to SWB in the case of high goal progress whereas both avoidance reasons are particularly related to SWB in the case of low goal progress. Despite those inconclusive findings around pleasure and self-esteem, the findings overall suggest that goal progress is a relevant person-feature that changes how strongly the two person-environment reasons (altruistic and necessity) are related to people's SWB.

Finally, the findings from the K-means cluster analysis indicate that GSRF is more strongly associated with SWB for those individuals who report experiencing life in a more positive way, i.e., feeling engaged at work, reporting low levels of burnout, being assertive, and progressing well in their goals. On the contrary, and most importantly, GSRF is not significantly related to people's SWB if they report low positive psychological functioning across a range of variables. This highlights the need to understand a broader sense of a person's positive psychological functioning to decide whether GSRF is a relevant and important concept for people's SWB. If people report being low on a wider range of SWB-related variables, GSRF does not seem to be the concept of choice, and other models or frameworks are likely to be more closely associated with SWB.

Implications for theory and practice

The results presented above have important implications for theory and practice. With regards to theoretical implications, the findings highlight the importance of including age, gender, assertiveness, engagement, burnout and goal progress as additional variables in any future studies where the GSRF is a major study variable. This is because these variables have been shown to change the relationship between goal-striving reasons and SWB and therefore are an important addition to the measurement of the core goal-striving reasons within the goal-striving reasons framework. Adding these additional, person-related variables is therefore important to increase the explanatory power of the GSRF for SWB.

Another theoretical implication of the study at hand is that it highlights the fact that variables such as assertiveness, burnout, and engagement⁵ can provide important insights into the person-activity fit of other PPIs. Hence, these characteristics should also be considered when analysing the person-activity fit of other PPIs. So far, the above-mentioned variables have received very little attention in this context (Bergsma et al., 2020; Lyubomirsky & Layous, 2013). For example, it seems reasonable to assume that people with high levels of burnout are less likely to commit to any intentional activities that require effort, especially over a longer period of time (e.g., keeping a gratitude journal). Conversely, people with high levels of engagement might be particularly suitable for those PPIs with require a lot of effort over a considerable period of time. Equally, people with low assertiveness levels might be less inclined to perform certain acts of kindness that require certain behaviours that are unusual or indeed involve a degree of courage (e.g., having a chat with a stranger).

The findings of this study also have practical implications. Those implications mostly revolve around subgroup specific modifications of the Happiness through Goal Setting Training—a PPI based on the GSRF. For example, it seems that the Happiness through Goal Setting Training should – in its current form – not be offered to young people under the age of 23 as their goal-striving reasons are mostly not related to their SWB. Because of this, modifications or additional elements to the training are required, helping young people shape their goals in such a way that increases the strength of the relationship between goal-striving reasons and SWB. Based on research by Sheldon and Kasser (2001), one way to do so is by helping young people to set more self-determined goals, particularly identified goals (goals that represent a sense of choice and authentic self-expression). This is because younger people tend to have less self-determined goals – and instead have

⁵ Goal progress is omitted here as this is a goal-setting specific variable.

more introjected goals driven by a sense of guilt or internal pressures. In other words, the HTSGT might benefit from a training element that helps young people to increase their sense of ownership over their goals.

The findings further show that women's SWB (compared to men's SWB) is much more strongly associated with their self-esteem reasons. This indicates that for women, a particular focus of the HTGST should be on their self-esteem reasons and how to increase their unconditional view on self-esteem as a driver behind their goals. For men, the findings suggest that it could be an important element within the training to sensitise men to the dangers of ignoring or denying the negative consequences of goal failure for one's self-esteem. This would lay the foundation and generate the motivation for men to work on their unconditional self-esteem to then reduce the negative effects of 'loss of self-esteem motivation' on SWB. With regards to management responsibilities, the findings revealed that there is very little benefit to differentiating between managers and employees.

People with low levels of assertiveness might benefit from assertiveness training prior to the HTGST as this will most likely positively impact on how strongly their approaching goal-striving reasons will be associated with SWB. For people with high levels of burnout, the findings suggest that HTGST should put a strong focus on self-compassion, as this element of the training has been demonstrated to reduce depersonalisation in other contexts (Román-Calderón et al., 2022) and therefore seems a promising route to re-establish the relevance of self-esteem reasons for SWB in the case of people with high burnout levels. According to the findings around work engagement, individuals with low levels of work engagement might benefit less from the HTGST as their self-esteem reasons are not associated with their SWB. One of the reasons for that is likely to be that these individuals do not get much meaning or purpose out of their work due to their low self-involvement at work. Therefore, any approach that seeks to reintroduce meaning and purpose into one's work – such as job crafting (Wrzesniewski & Dutton, 2001) – might be a relevant intervention for these individuals prior to embarking on the HTGST.

Finally, based on the findings from the cluster analysis, the HTGST should not be offered to individuals who report low positive psychological functioning on all SWB-related variables (low assertiveness, low engagement, high burnout, and low goal progress). In this case, it seems imperative that individuals receive all the above-mentioned specific interventions in relation to each of the SWB-related variables (assertiveness training, job crafting interventions, general self-compassion training, etc.) prior to the HTGST. These extra interventions are likely to increase the relevance of the HTGST for these individuals in relation to SWB.

The above-mentioned modifications to the HTGST are important insights that are likely to increase the effectiveness of the HTGST further. However, at the same time, these

additional measures require significant extra administrative efforts such as pre-screening participants, offering subgroup specific versions of the HTGST, etc. Therefore, a less labour-intensive way to integrate these findings into the HTGST could be to inform the training participants of the findings presented within the paper at hand and help them decide which aspects of the HTGST are particularly relevant for them.

Overall, beyond the specific recommendations for the HTGST, the findings on a more general notion also highlight the need and the possibility to develop more target group specific interventions, particularly for multi-component interventions such as the Happiness Training 101 (Lambert et al., 2019). Given the similarity to the HTGST in nature, it seems reasonable to assume that this intervention, as well as other multi-component interventions, will also have different SWB outcomes for different groups. This could potentially change the way well-being interventions are offered in the future given the growing demand from researchers to obtain a greater understanding as to which PPIs work best for whom under which circumstances (Lyubomirsky, et al., 2005a, 2005b). Thus, the findings of the paper also have implications for other well-being interventions and the way they target group specific multi-component interventions based on age, gender, assertiveness levels, burnout levels, levels of engagement and, where applicable goal progress.

Limitations and future research

Whilst the findings of this study have important implications for theory and practice, they need to be interpreted with caution. Given the cross-sectional nature of the data, any causality between GSRF and SWB cannot be established. Thus, it remains unclear from the findings obtained in this study if changes in people's goal-striving reasons actually lead to changes in their SWB. Fortunately, previous studies have shown that goal-striving reasons do affect people's SWB (Ehrlich, 2018; Ehrlich & Bipp, 2016) and, therefore, give some reassurance that any changes in goal-striving reasons lead to changes in people's SWB. Thus, it seems reasonable to assume that increasing or decreasing people's goal-striving reasons through the HTGST does indeed affect people's SWB. Additionally, the analysis is based on multiple correlations on the same data set which artificially increases the risk for type I errors (false positives) which this study has not corrected for. Furthermore, the findings are based on self-reported data. Thus, there is a possibility that the reported correlations are affected by common method variance. Finally, the overall data was not equally balanced with regards to gender with a larger proportion of female participants. Given the evidence that men and women differ in their reaction to some PPIs, this might have skewed the data slightly, particularly with regards to the screening variables (assertiveness, burnout, etc.). However, Chi-square tests indicated no significant association between any of the screening variables (high/low assertiveness, high/low burnout etc.) with

gender. This indicates that men or women were not significantly more likely to be grouped into the high/low category of any of the screening variables and, as a result, it is unlikely that the gender imbalance skewed the results for the screening variables.

The findings also stipulate future research. For example, further studies based on an even larger sample size are needed as this will allow looking even further into more nuanced sub-categories such as young/females vs young/males, or female/low on burnout vs male/low on burnout, etc. Furthermore, the results thus far have focussed on the strength of the relationship between GSRF and SWB. Based on these findings, modifications for the HTGST can be recommended. However, research needs to empirically test whether these modifications will actually lead to an improvement in the effectiveness of the HTGST and to what extent. So far, the effectiveness of the HTGST is reported with an average effect size (Cohen's *d*) of 0.20 (Ehrlich, 2022), which is in line with reported effect sizes for PPIs in general (Bergsma et al., 2020). Finally, the findings also suggest that some subgroups (e.g., people younger than 24 years and people with low general positive psychological functioning) might benefit from the provision of additional training content prior to embarking on the HTGST to gain the maximum benefit. The contents of the additional training still need to be identified and tested to investigate the extent to which they actually help improve the effectiveness of the HTGST for these subgroups. To conclude, the paper at hand provides important insights into the varying relevance of goal-striving reasons for SWB for a wide range of subgroups. These insights can now be translated into subgroup-specific modifications of the HTGST to increase its effectiveness in the future.

To conclude, the study at hand identifies a number of person-related features that provide important insights into how the goal-striving reasons of people relate to their SWB in the context of their idiosyncratic goal-pursuits. These newly identified person-related features can also be used to modify the Happiness through Goal Setting training to better meet the needs of various subgroups. Ultimately, this contributes to the current research call within Positive Psychology calling for the provision of PPIs that go beyond a one-size fits all approach and offer more target group specific PPIs.

Declarations

Conflict of interest The corresponding author states that there is no conflict of interest.

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