A First Psychometric Analysis of the Stoic Attitudes and Behaviours Scale

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Abstract

Well-being is a topic of interest both in general society and in scientific inquiry. Stoicism, a philosophy known for its numerous benefits, has been associated with improving well-being. The Modern Stoicism team has developed the Stoic Attitudes and Behaviors scale (SABS) to measure an individual's degree of Stoicism. During their 'Stoic week', a form of Stoic training, an increase in Stoicism was linked to enhancements in well-being, prompting questions regarding the reliability and validity of the SABS as a tool for measuring Stoicism and inquiries into its underlying dimensions. In this study among 299 undergraduates (74.9% female), we investigated whether reliable and valid subdimensions of the SABS can be distinguished, including their relationships with well-being measures. By employing factor analysis, five subdimensions were statistically distinguished, labeled as Cosmopolitanism, Caring, Perceived Control, Vigilance, and Cosmic Nature. We found indications of both convergent and divergent validity, as well as relationships between subdimensions and well-being measures (eudaimonia, subjective happiness, and flourishing). Notably, only Vigilance emerged as a consistent predictor across all indices of well-being. These results indicate that within the SABS there are distinguishable Stoic concepts that relate differently to well-being. Further investigation is needed to develop the distinguished subdimensions further, investigate whether more subdimensions can be distinguished, and investigate their relation to measures of well-being.

A First Psychometric Analysis of the Stoic Attitudes and Behaviours Scale

Well-being is intricately linked to numerous benefits in human functioning and has garnered significant interest in general society. This is evidenced by the increasing advent of self-help groups aimed at improving personal growth and well-being (Davidson et al., 2000; Pistrang et al., 2008). Moreover, well-being has gained substantial interest in research. Studies have shown that high levels of well-being are linked to enhanced physical health, stronger social relationships, improved work functioning, and overall improvements in general human functioning (De Neve et al., 2013; Howell et al., 2007; Kansky & Diener, 2017). Alexandrova (2017) emphasized the importance of studying well-being, stating that "the concern with human wellbeing is at the very root of modern social science; social science thus began its life as a form of knowledge devoted officially to the advancement of well-being".

Furthermore, the interest in well-being is not merely a contemporary topic of interest; it dates back to ancient philosophy from civilizations such as ancient Greece and Rome. Particularly, philosophies from the Hellenistic schools of thought, including Cynicism, Epicureanism, Hedonism, Eclecticism, Neo-Platonism, Skepticism, Sophism, and Stoicism, are concerned with the improvement of well-being (New World Encyclopedia, 2013). Among these ancient philosophies, the most well-known and relevant to the study of well-being is Stoicism.

Stoicism in modern times

Present-day writers advocate for the use and application of Stoicism to improve overall well-being, making it accessible in modern times (Holiday, 2015; Irvine, 2008; Pigliucci & Lopez, 2019; Robertson, 2018; Van Teuren, 2023). Moreover, Stoicism has seen application beyond well-being and self-help, extending to performance fields such as sports. Books such as 'Drive' and 'Flow' by Olympic gold medalist Mark Tuitert and 'The Daily Stoic' by Ryan Holiday offer insight into Stoicism's application to competition (Holiday,

2018a; Tuitert, 2021, 2023).

Since 2012, the Modern Stoicism team has utilized Stoicism as a form of training to enhance well-being (Modern Stoicism, 2024). During their training, called ‘Stoic week’, participants are encouraged to ‘live like a Stoic’ for an entire week. During Stoic week, people are educated and trained in the application of Stoic philosophy to contemporary life. Pre- and post-Stoic Week questionnaires concerning Stoic attitudes and behaviors, as well as well-being measures such as flourishing, life satisfaction, and affect, suggest positive outcomes from Stoic week. Although anecdotal, the results from the Modern Stoicism team’s Stoic Week suggest that training and education in Stoicism are positively associated with measures of well-being.

To measure the degree of participants’ Stoicism, the Modern Stoicism team developed the Stoic Attitudes and Behaviors Scale (SABS). The SABS has been utilized in multiple Stoic training weeks since 2012 and has undergone several revisions, including versions from SABS1.0 to SABS5.0 (Lebon 2012, 2015, 2017, 2021, 2022; Lebon & Steward, 2013). The SABS measures Stoicism by asking questions about fundamental Stoic topics, assessed on a Likert-type scale, where higher scores reflect higher ratings of Stoicism. Furthermore, the SABS4.0 (Lebon, 2021) has also been applied in scientific research as a measurement tool for measuring people’s degree of Stoicism, such as in studies investigating the effect of Stoic training on emotional vulnerability (MacLellan & Derakshan, 2021) and empathy and resilience (Brown et al., 2022).

Despite these promising results and scientific utility, the psychometric properties of the SABS remain empirically uninvestigated. This lack of examination raises questions about its validity as a measurement instrument for Stoicism and as a tool to enhance individuals’ well-being. Additionally, it casts doubt on the validity of the studies that have utilized the SABS. The scope of the present research is to investigate whether the assumed subdimensions

of the SABS can be distinguished not only theoretically but also empirically. Furthermore, we aim to determine whether the observed subdimensions are linked to measures of well-being. In the following section, we will discuss what possible subdimensions might be distinguished following factor analysis.

The Stoicism subdimensions

Based on the items represented in the SABS and Stoic literature, distinct topics can be identified as possible underlying subdimensions. These topics include cosmopolitanism, caring for others, the dichotomy of control, rehearsing future hardship and rising above life's challenges, cosmological nature, the regulation of emotions, and being indifferent to external goods. These subdimensions will be discussed next.

Cosmopolitanism

Cosmopolitanism describes how all human beings are an integral part of a larger interconnected system (Aurelius, as cited in Holiday, 2018b). Stoics viewed all humans as part of a universal brotherhood and recognized the interconnectedness and mutual dependence of all beings in the universe, regardless of their origin (Brock, 1998). Items such as "I view other people as fellow-members of the brother/sisterhood of humankind" and "viewing other people as fellow-members of the brother/sisterhood of humankind helps to avoid feeling angry and resentful" are representative of cosmopolitanism.

Caring for others

Building upon the concept of cosmopolitanism is caring for others. Due to the Stoics' view of the interconnectedness of all humans, a virtuous Stoic has the moral obligation to help fellow human beings (Kleingeld & Brown, 2019). Caring for others is an integral part of the Stoic cardinal virtue justice, which encompasses fairness, integrity, and treating others with respect and compassion, living according to one's moral compass, and contributing to the

common good of humankind (Holiday, 2024; Lesso, 2023; Pigliucci, n.d.). Items such as “I am committed to helping my friends” and “It is my duty to help others” are representative of the Stoic concept of caring for others.

The dichotomy of control

In Stoic philosophy, the dichotomy of control, introduced by Stoic philosopher Seneca (Holiday, 2018b), states that some aspects of life are within our control, and some are not. The concept emphasizes that individuals only have control over their judgments about events, not over the occurrence of those events. Individuals should take responsibility for matters within their control-our responses, expectations, beliefs, values, judgement, desires, impulses, aversions, and mental faculties- and accept the occurrence of matters outside our control, such as other people, our body, material possessions, the weather, nature, and time (Brooks, 2023; Weaver, 2024a). By directing attention exclusively to what we can control and disregarding what we cannot control, we can improve well-being. Items such as “We can’t really control other people” and “Our voluntary actions are among the only things truly under our control in life” are representative of the concept of dichotomy of control.

Vigilance

Another important Stoic topic is premeditatio malorum, which entails rehearsing future hardship, or vigilance. This Stoic practice allows one to visualize possible negative outcomes to help prepare to face future hardships (Roy, 2023). The practice of premeditatio malorum is elaborated by Seneca, who said, “The unexpected blows of fortune fall heaviest and most painfully, which is why the wise man thinks about them in advance.” (Seneca, as cited in Holiday, 2019). Items such as “I try to anticipate future misfortunes” and “every day I spend some time thinking about how I can best face challenges in the day ahead” are representative of the Stoic concept of vigilance.

Cosmic Nature

A recurring subject in Stoic philosophy is the view on cosmic nature. Stoics viewed nature as a rational and ordered system governed by universal laws and divine reason, including God, the universe, and the cosmos (Van Zyl, 2024). This concept of nature encompasses everything that exists, including the physical world, natural phenomena, and the totality of reality. Aligning oneself with the cosmic nature and living in accordance with it aids in living a life of well-being (Stephens, n.d.). Items such as "The universe embodies wisdom" and "The universe is a living thing" are representative of the cosmic view of Stoicism.

Emotion Regulation

Stoicism also emphasized the regulation of emotions and emotional resilience, known as apatheia in Stoic philosophy (Holiday, 2020b). Apatheia refers to a state of equanimity between healthy (positive) and unhealthy (negative) emotions. Stoics refer to emotions as passions and view them not as automatic instinctive reactions but as a result of judgement. Although an individual is not in control of automatic responses, they are in control of their judgement, therefore in control of their emotions (Pigliucci, n.d.). Thus, remaining neutral over passions, i.e. regulating our emotions, truly leads to improved well-being (Durand et al., 2023), as exemplified by the Stoic saying: "Man is not disturbed by things, but by the views he takes of them" (Van Teuren, n.d.). Items such as "When a negative thought enters my mind, the first thing I do is to remind myself that it is just an interpretation of the situation" and "It does not help me to get angry" are representative of the regulation of emotions in Stoicism.

Indifferents

An additional concept is the Stoic attitude towards external goods, or what the Stoics called indifferents. Indifferents are described as matters in an individual's life that do not significantly impact the pursuit of virtue and therefore do not impact the attainment of well-being (Diagones Laertius, as cited in Durand et al., 2023). Although indifferents do not matter for the attainment of well-being, some are preferred over others. Zeno differentiated between indifferents which possess value and those which possess disvalue (Zeno, as cited in Durand et al., 2023). Indifferents that have value include health, wealth, and education. Indifferents that have disvalue include sickness, poverty, and ignorance. The indifferents that aid life should not be disregarded and, according to the Stoics, are according to nature, making it appropriate or dutiful to select them over their opposites as long as they don't hinder practicing virtue (Durand et al., 2023). Viewing all external goods as something that we loan allows us to stay indifferent to those external goods if we lose them, because they were never ours to keep (Tuitert, 2024). Items such as "I do not need a lot of money in order to be happy" and "I do not need to be in good health in order to be happy" are representative of the Stoic attitude towards external goods.

In Summary, Stoic philosophy offers a broad theoretical perspective for achieving well-being through practicing and studying core Stoic concepts such as cosmopolitanism, caring for others, the dichotomy of control, vigilance, cosmic nature, regulation of emotions, and being indifferent to externals. We expect to distinguish these Stoic concepts empirically through employing an exploratory factor analysis (EFA) on the existing items of the SABS (Lebon, 2021, 2022). Furthermore, we will explore the relationships between the observed subdimensions and well-being indices. Specifically, we expect that the observed subdimensions are positively related to scores in eudaimonia, flourishing, and subjective happiness due to their theoretical relevance within Stoic literature.

Well-being

The Stoic concept of eudaimonia, defined as a state of flourishing, well-being, and overall happiness (Stephens, n.d.; Weaver, 2024b), is a recurring subject within Stoic literature and is the core denominator of well-being according to Stoicism.

Flourishing is a well-being construct, defined as "complete mental health to be filled with positive emotion and to be functioning well psychologically and socially" (Rule et al., 2024). Flourishing has a strong theoretical link with Stoicism, as it is included into the translation of the Stoic concept of Eudaimonia. Furthermore, in their studies, the Modern Stoicism team (2024) have used flourishing as an indicator of well-being.

Subjective happiness, is used as a term for indicating happiness, life satisfaction, and subjective well-being (Lyubomirsky & Lepper, 1999). Similar to flourishing, subjective happiness follows a strong relationship with eudaimonia as it is included in the definition of eudaimonia and has been applied in the studies of the Modern Stoicism team (2024) as an indicator of well-being.

Method

Participants

The sample was recruited through a university-based participation pool consisting of first-year bachelor psychology students, who participated in the study in exchange for credits. The inclusion criterion for participation was fluency in the Dutch language. Recruitment occurred between March 2024 and May 2024, yielding a total sample size of n = 315. From this initial pool, 16 participants were excluded because they either did not answer both control questions correctly (n = 2, 0.6%) or did not fully complete the survey (n = 14, 4.4%).

Next, we tested the data for the presence of outliers, i.e., extreme values, using Mahalanobis distances (Mahalanobis, 1936). Mahalanobis distance measures the distance

between a point of observation and the distribution of points in a multivariate space (Tabachnick & Fidell, 1996). Mahalanobis distances were calculated and compared to critical values from a chi-square distribution. Seventeen subjects with Mahalanobis distances exceeding the critical value were considered outliers and were excluded from further analysis.

The final sample comprised 282 participants, with 74.9% identifying as female, 24.4% as male, 0.7% as other. Participants ranged in age from 17 to 36 and were studying psychology (n = 294) or psychology in combination with another bachelor's degree (n = 5). See Table 1 for sample characteristics.

Procedure

Following approval from the ethical committee of the University of Groningen (research-code: PSY-2324-S-0009), the study was conducted between March 2024 and May 2024. The study was posted within a university-based participation pool accessible to first-year psychology students, who participated in studies in exchange for credits. The study was administered through SONA, where a short description and a link directed participants to the online questionnaire provided on Qualtrics. In Qualtrics, participants were informed about the study and were asked to provide consent to participate. If participants declined, they were forwarded to the end of the survey and thanked.

The survey began with the SABS questionnaire, with item sequencing randomized for each participant. Subsequently, participants filled out a series of questionnaires in randomized order. The sequencing of items within each questionnaire was also randomized for each participant. Following the completion of the questionnaires, participants were asked to provide demographic details, including age, gender, and field of study. Additionally, two control questions "Did you read and answer all questions carefully?" and "Did you answer all questions honestly?" were included to assess attentiveness and honesty in participants´ responses (Huang et al., 2011; Meade & Craig, 2012).

Measures

Stoicism. The two latest versions of the SABS, SABS4.0 and SABS5.0 (Lebon, 2021, 2022), were combined to provide a large selection of Stoicism-related items. For all items, see appendix A.

Eudaimonia. The Riverside Eudaimonia Scale (RES) is a self-report measure, that assesses individuals' eudaimonic well-being (Margolis et al., 2022). The RES comprises five items, with response categories ranging from 1 *helemaal mee oneens* to 7 *helemaal mee eens*. Cronbach's alpha was .69. For the complete Riverside Eudaimonia Scale, refer to Appendix G.

Flourishing. The Flourishing scale is a self-report measure that assesses participants' flourishing by evaluating their self-perception of success in important areas such as relationships, self-esteem, purpose, and optimism (Diener et al., 2009). The Flourishing Scale comprises eight items, with response categories ranging from 1 *helemaal mee oneens* to 7 *helemaal mee eens*. Cronbach's alpha was .86. For the complete Flourishing Scale, refer to Appendix I.

Subjective Happiness. The Subjective Happiness Scale is a self-report measure that assesses individuals' subjective happiness (Lyubomirsky & Lepper, 1999). The Subjective Happiness Scale comprises four items, with response categories ranging from 1 *helemaal mee oneens* to 7 *helemaal mee eens*. Cronbach's alpha was .79. For the complete Subjective Happiness Scale, refer to Appendix H.

Convergent and Divergent Validity

To test the convergent and divergent validity of the SABS subdimensions, a selection of similar and dissimilar constructs to the hypothesized subdimensions were used:

Locus of Control. The Locus of Control Questionnaire is a self-report measure that

assesses the degree to which individuals have an internal or external locus of control (Rotter, 1966). The LOCQ consists of 17 items, with response categories ranging from 1 *helemaal mee oneens* to 7 *helemaal mee eens.* Cronbach's alphas for the internal and external locus of control subdimensions were both .67. For the complete Locus of Control Questionnaire, refer to Appendix B.

Emotion Regulation. The Emotion Regulation Questionnaire (ERQ) is a self-report measure comprising two subdimensions: reappraisal emotion regulation strategies (ERQ-R), consisting of six items, and suppressive emotion regulation strategies (ERQ-S), consisting of four items (Gross & John, 2003). Response categories ranged from 1 *helemaal mee oneens* to 7 *helemaal mee eens.* Cronbach's alphas of the ERQ-R and ERQ-S subdimensions were .84 and .63, respectively. For the complete Emotion Regulation Questionnaire, refer to Appendix C.

Valued Living. The Valued Living Questionnaire (VLQ) is a self-report measure that assesses how individuals value living across specific domains (Wilson & Groom, 2002). These domains include Family, Marriage/Couples/Intimate relations, Parenting, Friendship, Work, Education, Recreation, Spirituality, Citizenship, and Physical self-care. The VLQ consists of ten items, with response categories ranging from 1 *helemaal niet* to 7 *in extreem sterke mate*. Cronbach's alpha was .60. For the complete Valued Living Questionnaire, refer to Appendix D.

Personal Worldview. The Personal Worldview Questionnaire (PWQ) is a self-report measure that assesses participants' perception of the world (Bigger Picture Foundation, 2007). The PWQ comprises seven items, with response categories ranging from 1 *helemaal mee oneens* to 7 *helemaal mee eens*. Cronbach's alpha was .88. For the Complete Personal Worldview Questionnaire, refer to Appendix E.

Moral Character. The Moral Character Questionnaire (MCQ) is a self-report measure

that assesses individuals' moral character through six moral domains: Honesty, Compassion, Fairness, Loyalty, Respect, and Purity (Furr et al., 2022). The MCQ comprises 30 items, with response categories ranging from 1 *helemaal mee oneens* to 7 *helemaal mee eens*. Cronbach's alpha was .89. For the complete Moral Character Questionnaire, refer to Appendix F.

Results

Preliminary analysis prior to exploratory factor analysis

The data were investigated to ensure the appropriateness of conducting an exploratory factor analysis (EFA) based on several assumptions prior to the analysis. The assumptions outlined by Güvendir and Özkan (2022) were tested, including the presence of extreme values, multivariate normal distribution, sampling adequacy, intercorrelations, and multicollinearity.

First, we calculated the mean, standard deviation, kurtosis, and skewness for the items of the SABS. Ideally, items should have means around the center of the scale used; for example, a mean of 4 on a 7-point Likert scale. Values that significantly deviate from this mean suggest departure from normality. An absolute value of 2 deviating from the mean was considered the cut-off point for identifying outliers. Kurtosis values between -7 and +7 and skewness values between -2 and +2 are considered normal (Byrne, 2010; Hair et al., 2010). Items 28 and 31 were considered outliers and were excluded from further analysis as their values exceeded these cut-off points (see Appendix J for means, standard deviations, kurtosis and skewness values of the SABS items).

After removing the items that violated normality, we employed the Friedman-Rafsky-Smith-Jain test (Smith & Jain, 1988) to assess whether the remaining data were normally distributed. The significant Friedman-Rafsky-Smith-Jain test result, χ^2 (79) = 7249.19, $p <$

.001, indicates that the data deviate significantly from multivariate normality.

To assess whether the items of the SABS are suitable and sufficiently intercorrelated for conducting an EFA, we employed the Kayser-Mayer-Olkin (KMO) measure of sampling adequacy (Kaiser, 1974) and Bartlett's Test of Sphericity (Bartlett, 1951). The KMO measure evaluates the degree of common variance among items and determines whether the correlations among items are strong enough to support factor creation. KMO values above .80 are considered excellent, values above .70 are good, .60 are mediocre and below .50 are inadequate (Hair et al., 2019; Leech et al., 2013). In this study, the calculated KMO value was .76, indicating that the sample is sufficiently adequate to proceed with EFA.

Bartlett's Test of Sphericity assesses whether correlations between variables are strong enough to justify factor analysis by evaluating whether the observed correlations significantly deviate from an identity matrix. A significant result from Bartlett's Test of Sphericity indicates that variables are sufficiently interrelated to support conducting EFA. In this study, the test results were significant, χ^2 (n = 282) = 8947.08, $p < .001$. Both the KMO measure of sampling adequacy and Bartlett's Test of Sphericity supported proceeding with EFA.

To investigate multicollinearity, Variance Inflation Factor (VIF) and tolerance values were examined. According to Albayrak (2005), VIF values less than 10 and tolerance values greater than 0.1 indicate that multicollinearity is not a problem in the dataset. In our study, VIF values ranged from 1.60 to 3.39, and tolerance values ranged from .30 to .60, confirming that the assumptions regarding multicollinearity are met. See Appendix K for detailed VIF and tolerance values.

Exploratory factor analysis

Unrotated solution

Prior to rotation, an EFA was conducted using the principal axis factoring method. Principal axis factoring was selected because the data did not meet the assumption of multivariate normality (Sürücü et al., 2022). Initial analysis revealed a 23-factor structure with eigenvalues greater than 1, following Kaiser's rule (Kaiser, 1960). The 23 factors collectively explained 53.4% of the total variance.

To determine the optimal number of factors to retain, Velicer's Minimum Average Partial (MAP) procedure (Velicer, 1976) and parallel analysis (Horn, 1965) were conducted using O'Connor's syntax (O'Connor, 2000) in IBM SPSS Statistics (Version 29.0.1). Velicer's MAP and Horn's parallel analysis both converged on 10 factors. Additionally, inspection of Cattell's scree plot (Cattell, 1966) (see Appendix L) suggested that the optimal number of factors to retain was five, as indicated by the bend in the elbow occurring after five factors. Due to these varying results, multiple factor structures were explored. After evaluating multiple factor structures, 55 items either failed to load significantly onto a primary factor (i.e., factor loadings < .40) or showed excessive cross-loading and were excluded from further analysis. Following the removal of these 55 items, Velicer´s MAP procedure and Horn's parallel analysis were re-conducted, both converging on five factors. Thus, based on the initial visual inspection of the Cattell's scree plot, Velicer's MAP procedure, and the parallel analysis, all converging on five factors, it was decided to proceed with rotating five factors.

Rotated solution

An EFA was performed using the principal axis factoring method with oblique rotation method (direct oblimin), resulting in a five-factor structure. Factor loadings greater than .40 on the rotated final five-factor structure are presented in Table 2. Cumulatively, these five factors explained 41.6% of the variance. The results indicate that the factors represent distinct empirical constructs.

Examining the factors and their associated items, as presented in Table 2, the first

factor reflects an individual's perspective on being a good human being and their perception of fellow human beings as part of a larger whole. These items align with the Stoic concept of cosmopolitanism; therefore, this subdimension was labeled *Cosmopolitanism*. The second factor reflects a moral inclination towards caring for others, consistent with the Stoic cardinal virtue of justice, and was labeled *Caring.* The third factor reflects whether an individual perceives control over events, consistent with the Stoic concept dichotomy of control, and was labeled *Perceived Control*. The fourth factor reflects concerns and anticipation regarding future challenges, which aligns with the Stoic cardinal virtue of courage. This subdimension was labeled *Vigilance*. The fifth factor reflects views on the universe and the cosmos, including perspectives on the divine, consistent with the Stoic perspective on nature; hence, it was labeled *Cosmic nature.* The hypothesized subdimensions of Regulation of Emotions and Indifferents, represented by the items such as SABS30, SABS34 and SABS39, SABS46, respectively (see Appendix A), could not be empirically differentiated.

As shown in Table 3, Cronbach's alpha values ranged from .69 to .79, indicating acceptable to good internal consistency. Intercorrelations, means, and standard deviations of the subdimensions are presented in Table 3 as well.

Additional Factor analysis

Exploratively, we conducted factor analyses to explore whether additional factors could be identified that encompasses items theoretically linked to the hypothesized subdimensions of Regulation of Emotions and Indifferents. We identified a factor consisting of five items related to the hypothesized subdimension Indifferents: SABS55, SABS44, SABS39, SABS42, and SABS46 (see Appendix A for the complete SABS). This factor was not included in the initial factor structure due to the low factor loadings (< .40) of the items SABS42 and SABS46, and an overall lower explained variance of 40.6% compared to the

five factor structure. Therefore, it was determined that the five factor structure provided a more suitable fit. No evidence supporting an additional seventh factor was found.

Divergent and convergent validity

Next, we assessed the divergent and convergent validity of the identified subdimensions. Intercorrelations, means, and standard deviations among the different constructs are presented in Table 4.

Divergent validity was examined by correlating the SABS subdimensions of Cosmopolitanism, Caring, Perceived Control, Vigilance, and Cosmic Nature to the measures of valued living, personal worldview, moral character, intrapersonal regulation strategies, and locus of control. As shown in Table 5, the correlations between the observed Stoic dimensions and the control variables range from low to moderate, indicating strong divergent validity. However, there were some exceptions suggesting convergent validity. Specifically, Caring showed a high correlation with measures of moral character (r = .55), Vigilance was highly correlated with emotional reappraisal strategies (r = .36), and Cosmic Nature was highly correlated with measures of valued living (r = .38). These findings suggest that some subdimensions may overlap in measuring similar constructs.

Well-being measures

Next, we investigated the relationships between the five subdimensions and measures of well-being, including eudaimonia, flourishing, and subjective happiness (see Table 6 for intercorrelations, means, and standard deviations off the well-being indices). As depicted in Table 7, only Vigilance exhibited positive associations with all measures of well-being: eudaimonia, subjective happiness, and flourishing. Cosmopolitanism was only positively associated with Eudaimonia. Additionally, Caring showed positive associations with both eudaimonia and flourishing. However, Perceived Control demonstrated no significant relationship with any measure of well-being. Finally, Cosmic Nature displayed only a weak

association with eudaimonia.

subsequently, we conducted regression analyses to further explore the relationship between the well-being indices and the subdimensions, assessing whether well-being indices could be predicted by the individual subdimensions. As shown in Table 8, the subdimensions Cosmopolitanism, Caring, and Vigilance were significant predictors of eudaimonia. Table 9 illustrates that Vigilance was the sole significant predictor of subjective happiness. Furthermore, as depicted in Table 10, Caring and Vigilance were significant predictors of flourishing. Overall, Vigilance emerged as the only consistent significant predictor across all indices of well-being, underscoring its significance as a predictor of well-being.

Discussion

In this study, we investigated whether the Stoic Attitudes and Behaviors Scale (Lebon, 2021, 2022) is a reliable and valid measure of Stoicism. Specifically, we examined whether the hypothesized subdimensions of Cosmopolitanism, Caring, Perceived Control, Vigilance, Cosmic Nature, Emotion Regulation, and Indifferents could be empirically distinguished. Additionally, we explored how these proposed subdimensions relate to well-being measures, including eudaimonia, subjective happiness, and flourishing.

Through exploratory factor analysis, we identified the subdimensions of Cosmopolitanism, Caring, Perceived Control, Vigilance, and Cosmic Nature. Empirically distinguishing these subdimensions suggests that within Stoic philosophy, there are robust constructs that are not only theoretically but also empirically identifiable. This distinction implies that these Stoic constructs are well represented within the SABS and provides a reliable measure for these constructs. This has practical implications for the application of these constructs. For instance, during the Stoic week organized by the Modern Stoicism team (Modern Stoicism, 2024), participants are educated and trained in Stoicism. The identification of multiple subdimensions within the SABS can enhance training and education by clarifying

the underlying structure of Stoicism. Additionally, it can facilitate the development of tailored interventions for participants who score low on specific subdimensions. Ultimately, the identification of subdimensions within the SABS can help the Modern Stoicism team to create a more detailed training program and improve the overall understanding of the outcomes achieved through participation in the Stoic week.

Additionally, we explored whether there were indications for the hypothesized subdimensions of Emotion Regulation and Indifferents. We found strong indications for an additional sixth factor, Indifferents. However, not all items loaded highly enough (< .40) onto this factor to include the sixth factor into the model. Furthermore, no indication for the subdimension of Emotion Regulation was found. We concluded that the subdimensions Emotion Regulation and Indifferents could not be empirically distinguished in this study, even though these proposed subdimensions are theoretically relevant within Stoic literature. A possible explanation for why these subdimensions could not be distinguished empirically is that the items used in this study do not adequately represent the underlying constructs. If items do not accurately represent the underlying construct, they might not share enough variance to load onto a factor together. Revising the items and adding more theoretically relevant items to represent the constructs might lead to distinguishing the subdimensions empirically, if these underlying constructs are indeed relevant for representing Stoicism. A future study where the Stoic concepts of emotion regulation and indifferents are represented with items that measure the constructs more accurately, might improve our understanding of whether these constructs are indeed theoretically relevant and empirically distinguishable, or whether these constructs should be integrated into other existing Stoic concepts.

Overall, the empirical support for the SABS subdimensions prompts consideration of different Stoic concepts that might be meaningful to distinguish empirically. Although no additional subdimensions were distinguished in this study, the findings suggest that further

development and refinement of the SABS is needed to explore the underlying structure and potentially distinguish additional relevant subdimensions.

Moreover, we examined the convergent and divergent validity of the distinguished subdimensions. Caring was highly correlated with measures of moral character, Vigilance was highly correlated with emotional reappraisal strategies, and Cosmic Nature was highly correlated with measures of valued living, indicating convergent validity between these subdimensions and the measured constructs. No indications of convergent validity were found for the subdimensions Cosmopolitanism and Perceived Control. The absence of convergent validity for Cosmopolitanism and Perceived Control suggest that further investigation is needed to validate these subdimensions. Although there is a strong theoretical relationship between Perceived Control and locus of control, no relationship was found. A possible explanation for the absent relationship between Perceived Control and the Locus of Control Scale (Rotter, 1966), is that we used a shortened version of the original scale. Future research should use the full version of the Locus of Control Scale (Rotter, 1966) to improve the overlap between both measures, ensuring convergent validity. Furthermore, another possible explanation for the weak indications of convergent validity is the selection of measures used. The measures may not have been suitable for assessing the convergent validity of the subdimensions distinguished in this study. Future research should focus on assessing the convergent validity of the distinguished subdimensions using measures which are more theoretically linked to the constructs measured by the subdimensions. Suggestions for more theoretically linked measures for the distinguished subdimensions and the hypothesized subdimensions Emotion Regulation and Indifferents are presented in Table 11.

Furthermore, we found multiple indications of divergent validity for each of the five subdimensions, concluding that the divergent validity of the distinguished subdimensions is sufficient.

Stoicism and wellbeing

Theoretically, all the identified subdimensions are related to well-being indices. However, the results indicate that only Vigilance is consistently related to wellbeing indices, suggesting that the Stoic concept of vigilance can be used to enhance individuals´ well-being, although future research is warranted to replicate these findings. Furthermore, the results indicate that the subdimensions Cosmopolitanism, Caring, Perceived Control, and Cosmic Nature are not stable predictors of well-being. This suggests that the strong theoretical relationships between the Stoic constructs and well-being are not straightforward. Given that this study is the first to explore the link between the SABS subdimensions and measures of well-being, although promising, need replication and further investigation to fully understand the strength of these relationships. Improving our understanding of why the other subdimensions did not predict well-being indices could uncover new insights into the dynamics of Stoicism and its relationship well-being enhancement.

Looking into the well-being measures used, eudaimonia showed a correlation of r = .29 with subjective happiness, indicating that these two constructs measure different aspects of well-being. This may provide a possible explanation for the varying findings regarding the relationships between the subdimensions and the well-being indices of eudaimonia and subjective happiness. Furthermore, eudaimonia was highly correlated with flourishing (r = .55) and subjective happiness was highly correlated with flourishing (r = .60), suggesting that these constructs measure a similar underlying aspect of well-being. However, this does not fully explain the varying relationships between the subdimensions and the well-being indices, as one would expect similar relationships with the subdimensions if a similar underlying construct is measured. Future research should further investigate the link between the subdimensions and well-being and examine whether the relationships found in this study can be replicated. Additionally, future studies should include other measures of well-being, such

as mental well-being (Tennant, et al., 2007), emotional well-being (Şimşek, 2010), psychological well-being (Ryff & Keyes, 1995), and overall life-satisfaction (Diener et al., 1985).

Practically, the distinguished subdimensions and their relationship with measures of well-being, particularly Vigilance, could be used to design interventions based on Stoicism to enhance individual well-being. Although this study has an exploratory nature, the strong link between Vigilance and well-being suggest that training individuals to become more vigilant might lead to improved well-being. Due to the varying relationships between the other subdimensions and well-being, no such interventions can be recommended at this time. More research is needed to further establish the relationships between the subdimensions of Cosmopolitanism, Caring, Perceived Control, Cosmic Nature, and well-being.

Furthermore, the validation of the SABS subdimensions may have implications beyond the enhancement of well-being. Stoicism has also seen application in sports, with authors such as Ryan Holiday and Mark Tuitert advocating for its use (Holiday, 2018a; Tuitert, 2021, 2023). The validation of a measurement tool for Stoicism may enhance its utility in sports by enabling the measurement and quantification of Stoicism and its relation to sports performance. The distinguishing of subdimensions such as Perceived Control may particularly provide useful benefits in this context. Holiday (2020a) advocates for the use of the Stoic concept of perceived control to enhance the performance of athletes by focusing only on what they can control. Developing Perceived Control as a stable measure might prove useful in enhancing athletes' performance. Future research should explore the relationship between Perceived Control and athletic performance to empirically establish its relationship and develop sports interventions based on this relationship.

Strengths and limitations

A strength of this study is that it is the first time the validity and reliability of the SABS have been investigated. This explorative study is the initial step towards empirically distinguishing meaningful and reliable subdimensions within the SABS and examining their relationships with well-being. The findings allow future research to further investigate the underlying dynamics of the SABS and uncover the relationship between Stoicism and the enhancement of well-being in an empirical manner. Another strength of this study was the adequate sample size and the factorability of the data. The sufficient KMO values and significant Bartlett's Test of Sphericity indicated that the sample was large enough and showed appropriate variance to employ exploratory factor analyses, allowing for the investigation of the underlying subdimensions of the SABS.

However, there were also limitations within this study that need to be considered. First is the homogeneity of the sample. All participants were recruited using the same platform, SONA, which is a university-based platform where students can participate in studies posted by researchers and students in exchange for course credits. This resulted in a sample with participants having the same educational background, predominantly female, and with a limited age range. Homogeneous samples threaten the generalizability of the results to a wider population because the sample is not representative beyond first-year psychology student. They also threaten the reliability and validity of measures because the variability within a sample might not accurately reflect the underlying constructs measured (Cortina, 1993; Nunnally, 1978).

The second possible limitation is the questionable reliability of certain measured constructs: external locus of control, emotional regulation suppression strategies, valued living, and eudaimonia, with Cronbach's alphas reported at .68, .67, .60, and .69, respectively. While Nunnally (1978) posits that Cronbach's alphas between .60 and .70 are judged to be acceptable, Cronbach's alphas below .70 still might indicate possible limitations. Schmitt

(1996) points out that low Cronbach's alpha indicate higher levels of measurement error, that the construct used may not accurately measure the intended construct, reduced power which makes it harder to detect true relationships, and increased difficulty in accurately interpreting the observed relationships. Although the Cronbach's alphas in this study were still acceptable, they may have influenced the results, increasing the need to replicate this study's findings.

Third is the use of self-report measures. Research has indicated that self-report measures are susceptible to self-presentation and social desirability biases (Viswesvaran & Ones, 1999). Due to the study's reliance on the use of self-report measures, the inflation of results and overall inflation of the participants answers may have been a threat to the overall validity of the findings.

Fourth is the use of translated questionnaires. In this study we translated the original measures to Dutch. This has possible implications for the validity and reliability of the measures used. Although each item was translated back and forth between two people, translated items can differ slightly in meaning between two different languages. This results in the possibility that the translated item measures a different construct than originally intended, impacting construct validity.

Conclusion

In this study, we took the first step to psychometrically validating the Stoic Attitudes and Behaviors Scale (SABS) as a reliable and valid measure of Stoicism. We identified five distinct Stoic subdimensions: Cosmopolitanism, Caring, Perceived Control, Vigilance, and Cosmic Nature. Additionally, we explored the relationships between the distinct subdimensions and well-being indices, including eudaimonia, subjective happiness, and flourishing. Identifying these subdimensions provided valuable insights into the underlying structure of the SABS and Stoicism in general. The findings from this research contribute to the understanding and utility of Stoicism by providing a validated measurement tool that can

be used in various context, such as psychological research, education, and practical applications in fields such as sport psychology. Furthermore, this study lays the groundwork for future research to further investigate the SABS, its subdimensions, and their applications. Future research should continue to refine the SABS, validate its subdimensions, investigate the potential for new subdimensions, and explore the use of the SABS in Stoic interventions aimed at improving well-being. To conclude, this study represents a significant step towards establishing the SABS as a robust measure of Stoicism, providing a foundation for future research and practical applications aimed at enhancing well-being and understanding Stoic philosophy.

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Table 1

Sample Characteristics

Baseline Characteristics	Overall	%
Age (range)	17-36	
Gender		
Female	212	75.2
Male	68	24.1
Other	2	0.7
Study		
Psychology	277	98.2
Other	5	1.8

Table 2

EFA Factor Loadings for the Final 25-Item SABS

Item	Cosmopolitanism	Caring	Perceived Control	Vigilance	Cosmic Nature
Factor 1: Cosmopolitanism					
SABS75: 'I view other people as fellow members of the brother/sisterhood of humankind.'	**.67**	.06	.15	.23	.33
SABS6: 'It is good to think about life as an ongoing journey towards becoming a better person.'	**.66**	.16	.20	.15	.33
SABS20: 'I think about my life as an ongoing project to become a better person.'	**.64**	.13	.19	.21	.37

SABS76: 'Viewing other people as fellow members of the brother/sisterhood of humankind helps me to avoid feeling angry and resentful.'	**.59**	.00	.17	.12	.21
SABS45: 'Recognizing that being the best kind of person is the only thing that matters helps me face how short life is.'	**.58**	.25	.16	.17	.31
Factor 2: Caring					
SABS23: 'I am committed to helping in my local community.'	.00	**.80**	.08	.11	.05
SABS7: 'I am committed to helping my friends.'	.04	**.71**	.03	.18	.01

SABS18: ‘I care about the suffering of others.’	-.03	**.62**	.16	.21	.09
SABS12: ‘It is my duty to help others.’	.38	**.60**	.05	.16	.25
SABS2: ‘I take active steps to reduce the suffering of others.’	.12	**.59**	.18	.15	.20
Factor 3: Perceived Control					
SABS61: ‘We can’t really control other people.’	-.04	.19	**.67**	.07	.30
SABS62: ‘Nothing except our judgements and voluntary actions are truly under our control in life.’	.23	.05	**.62**	.05	.02
SABS59: ‘We can sometimes influence how others behave but we can’t completely	.01	.08	**.62**	.15	.21

control other people.'					
SABS66: 'Our voluntary actions are amongst the only things truly under our control in life.'	.29	.13	**.58**	.02	.04
SABS68: 'Our judgements are amongst the only things truly under our control in life.'	.13	.07	**.46**	.02	.02
Factor 4: Vigilance					
SABS27R: 'I spend quite a lot of time worrying about the future.'	.04	.09	-.07	**.71**	0.9
SABS58R: 'I spend quite a lot of time dwelling on what has gone wrong in the past.'	-.17	.21	.11	**.64**	.09
SABS35: 'I try to anticipate	.23	.17	.05	**.52**	.13

future misfortunes.					
SABS36: ‘I try to avoid future setbacks’	.16	.11	-.03	**.48**	.05
SABS17: ‘Every day I spend some time thinking about how I can best face challenges in the day ahead.’	.24	.14	.09	**.46**	.12
Factor 5: Cosmic Nature					
SABS82: ‘The universe embodies wisdom.’	.33	.09	.18	.16	**.80**
SABS74: ‘There is a rational and orderly plan in the universe and in the causation of events.’	.29	.04	.07	.07	**.62**
SABS81R: ‘There is no overall plan to the universe.’	.19	.10	.04	.08	**.61**

SABS73: ‘The universe is a living thing.’	.24	-.01	.06	.19	**.54**
SABS78: ‘The universe is benevolent in its overall plan.’	.13	.24	.15	.02	**.50**

Note. Primary factor loadings are in boldface. EFA= Exploratory factor analysis; SABS= Stoic Attitudes and Behaviors Scale.

Table 3

Interfactor Correlations, Means, Standard Deviations, and Cronbach's Alphas

Factor	1	2	3	4	5	*M*	*SD*	α
1.Cosmopolitanism		.21**	.25**	.18**	.42**	19.5	5.8	.79
2.Caring			.14*	.02	.15*	27.7	3.8	.79
3.Perceived Control				-.01	.16*	23.6	4.9	.72
4.Vigilance					.05	21.2	3.2	.69
5.Cosmic Nature						19.0	5.8	.75

Note. $^{**}p < .01$. $^{*}p < .05$.

Table 4

Measured Constructs Intercorrelations, Means, and Standard Deviations

Measures	*M*	*SD*	2	3	4	5	6	7
1. Locus of Control - Internal	21.5	3.4	-.18**	.14*	.08	.28**	.04	.07
2. Locus of Control - external	18.1	4.7		-.18*	.08	-.03	-.16*	-.10
3. Emotion Regulation Questionnaire - Reappraisal	28.8	5.5			.14*	.23**	-.04	.29**
4. Emotion	15.3	3.2				-.03	-.01	.11

Regulation Questionnaire – Suppression				
5. Valued Living Questionnaire	50.2	5.9	-.17**	.36**
6. Personal Worldview Questionnaire	39.0	8.6		-.05
7. Moral Character Questionnaire	164.9	16.9		

Table 5

Well-Being Indices Intercorrelations, Means, and Standard Deviations

Measures	*M*	*SD*	2	3
1. Riverside Eudaimonia Scale	26.3	3.7	.29**	.55**
2. Subjective Happiness	18.8	4.2		.60**
3. Flourishing Scale	44.6	5.9		

Table 6

Zero-Order Correlations Indicating Divergent and Convergent validity

SABS	VLQ	PWQ	MCQ	ER-R	ER-S	LOC-I	LOC-E
Cosmopolitanism	.25**	-.15*	.20**	.35**	.04	.06	.22**
Caring	.31**	-.07	.55**	.11*	.09	.08	.09
Perceived Control	.11*	-.05	.28**	.25**	.17**	.08	.14*
Vigilance	.18**	.00	.16*	.36**	-.05	.12*	-.14*
Cosmic Nature	.38**	-.29**	.19**	.17**	-.08	.08	.11

Note. SABS: Stoic Attitudes and Behaviors Scale; VLQ: Valued Living Questionnaire; PWQ: Personal worldview Questionnaire; MCQ: Moral Character Questionnaire; ER-R: Emotion Regulation Reappraisal; ER-S: Emotion Regulation Suppression; LOC-I: Locus of Control Internal; LOC-E: Locus of Control External.

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

Table 7

Zero-Order Correlations and Partial Correlations Between Measured Constructs and Measures of Well-Being

	Eudaimonia		Subjective happiness		Flourishing	
Predictor	Zero-order	Partial	Zero-order	Partial	Zero-order	Partial
Cosmopolitanism	.38	.24	.11	.00	.09	-.06
Caring	.31	.24	.06	.04	.34	.33
Perceived Control	.10	-.01	.04	.02	.10	.07
Vigilance	.31	.25	.29	.28	.34	.34
Cosmic Nature	.18	.01	.13	.10	.07	.02

Table 8

Regression Results Predicting Eudaimonia

Predictor	B	SE	β	t	*p*
Intercept	9.56	2.09		4.58	<.001
Cosmopolitanism	.18	.04	.28	4.68	<.001
Caring	.25	.05	.25	4.61	<.001
Perceived Control	-.01	.04	-.01	-0.15	.88
Vigilance	.30	.06	.26	4.86	<.001
Cosmic Nature	.00	.04	.01	0.11	.91

Table 9

Regression Results Predicting Subjective Happiness

Predictor	B	SE	β	t	*p*
Intercept	7.98	2.57		3.10	.002
Cosmopolitanism	0.01	0.05	.00	0.03	.98
Caring	0.04	0.07	.04	0.62	.53
Perceived	0.02	0.05	.02	0.35	.72
Control					
Vigilance	0.37	0.08	.28	4.79	< .001
Cosmic Nature	0.8	0.05	.11	1.67	.10

Table 10

Regression Results Predicting Flourishing

Predictor	B	SE	β	t	*p*
Intercept	15.16	3.41		4.45	< .001
Cosmopolitanism	-.07	.06	-.07	-1.13	.258
Caring	.53	.09	.34	6.14	< .001
Perceived	.09	.07	.08	1.36	.175
Control					
Vigilance	.64	.10	.34	6.30	< .001
Cosmic Nature	.02	.06	.02	0.39	.695

Table 11

Suggestions Convergent Validity of the SABS Subdimensions

Subdimension	Measure
Cosmopolitanism	Identification With All Humanity Scale (McFarland, Webb, & Brown, 2012)
Caring	Helping Others Scale (Nickell, 1998)
Perceived Control	Locus of Control Scale full scale (Rotter, 1966)
Vigilance	The Future Time Perspective Scale (Carstensen & Lang, 1996)
Cosmic Nature	Spirituality in Nature Scale (Kamitsis & Francis, 2013)
Emotion Regulation	Emotion Regulation Questionnaire (Gross & John, 2003)
Indifferents	The Nonattachment Scale (Elphinstone, Sahdra, & Ciarrochi, 2014).

Appendix A

Stoic Attitudes and Behaviors Scale 4.0 & 5.0 (Lebon, 2021, 2022)

1.	I think about what the ideal wise and good person would do when faced with various misfortunes in life.	Als ik geconfronteerd word tegenslag, stel ik me voor wat een goed en wijs mens zou doen.
2.	I take active steps to reduce the suffering of others.	Ik onderneem actief stappen om het lijden van anderen te verlichten.
3.	It doesn't really matter what other people think about me as long as I do the right thing.	Het maakt het mij niet uit hoe andere mensen over mij denken, zolang ik maar doe wat juist is
4.	When making a significant decision I ask myself "What really matters here?"	Als ik een cruciale beslissing moet nemen, dan stel ik mijzelf de vraag: "Wat is hier nu echt belangrijk?"
5.	I am committed to helping humanity in general.	Ik heb een sterke drijfveer om 'de mensheid' te helpen
6.	It is good to think about life as an ongoing journey towards becoming a better person.	Het is goed om het leven te beschouwen als een continue reis om een beter mens te worden.
7.	I am committed to helping my friends.	Ik ben sterk toegewijd aan het helpen van mijn vrienden.
8.	When making a significant decision I reflect on what a good role model would do.	Als ik een belangrijke beslissing moet nemen dan bedenk ik wat een voor mij belangrijk rolmodel zou doen.
9.	I pay attention to my judgments as I am making them.	Ik probeer zeer zorgvuldig te zijn in mijn oordeelsvorming.
10.	I treat everyone fairly.	Ik behandel iedereen op een eerlijke en rechtvaardige manier.
11.	I want to become a better person	Op ethisch vlak wil ik een (nog)

	ethically.	beter mens worden.
12.	It is my duty to help others.	Ik voel het als een morele plicht om anderen te helpen.
13.	I usually do the right thing.	Normaal gesproken doe ik wat juist is.
14.	Every day I spend some time reflecting in a constructive way on how I am doing as a human being.	Op een constructieve wijze reflecteer ik iedere dag enige tijd op hoe ik ben als mens.
15.	I do the right thing even when I feel afraid.	Ook als ik me angstig voel doe ik datgene wat juist is.
16.	I am committed to helping my family.	Ik ben erg gedreven om mijn familie te helpen.
17.	Every day I spend some time thinking about how I can best face challenges in the day ahead.	Dagelijks besteed ik wel wat tijd aan het nadenken over hoe ik het best kan omgaan met de uitdagingen die voor mij liggen.
18.	I care about the suffering of others.	Het lijden van anderen raakt me
19.	I try to treat everybody fairly even those people who I don't particularly like.	Ik probeer eerlijk en gelijkwaardig met iedereen om te gaan, inclusief mensen die ik niet zo leuk vind.
20.	I think about my life as an ongoing project to become a better person.	Ik beschouw het leven als een oneindig project om een beter mens te worden.
21.	I try to treat people fairly even those people who have behaved badly towards me.	Ik probeer eerlijk met mensen om te gaan, ook met hen die zich naar mij toe niet altijd netjes hebben gedragen.
22.	Improving my ability to do what an excellent human being would do is very important to me.	Het verbeteren van mijn vaardigheid om te doen wat "een goed mens" zou doen, is belangrijk voor mij.
23.	I am committed to helping in my	Ik heb een sterke toewijding om

	local community.	mensen uit mijn directe omgeving te helpen.
24.	It can sometimes be a good thing to become angry at people. (R)	Soms is het goed om boos op te worden op mensen.
25.	I rehearse rising above possible future misfortunes.	Ik train mijzelf in het adequaat omgaan met toekomstige tegenslagen.
26.	When I have a problem, I am good at taking constructive action in a timely manner.	Als ik een probleem heb, dan onderneem ik tijdig constructieve actie.
27.	I spend quite a lot of time worrying about the future. (R)	Ik besteed best veel tijd aan het zorgen maken over de toekomst.
28.	If bad things happen to you, you are bound to feel distressed. (R)	Het is logisch dat je stress en spanning voelt als vervelende dingen je overkomen.
29.	Whatever happens to you, it's possible to rise above it and feel calm.	Wat je ook overkomt, het is altijd mogelijk om het overzicht te behouden en kalm te blijven.
30.	When a negative thought enters my mind, the first thing I do is to remind myself that it is just an interpretation of the situation.	Als een negatieve gedachte mijn hoofd binnensluipt, dan herinner ik mezelf er direct aan dat het slechts een interpretatie is van de situatie.
31.	It is right to feel intense and overwhelming grief after a significant loss. (R)	Het is normaal om intens en overweldigend verdriet te voelen na een aanzienlijk verlies.
32.	I do not act on urges when it would be unwise to act on them.	Ook al voel ik de neiging, ik onderneem geen onverstandige acties.
33.	Sometimes a controlled experience of anger can be helpful in resolving conflict with others. (R)	Soms kan gecontroleerde woede behulpzaam zijn in het oplossen van een conflict met anderen.

34.	It does not help me to get angry.	‘Boos worden’ helpt mij niet.
35.	I try to anticipate future misfortunes.	Ik probeer rekening te houden met toekomstige tegenslagen.
36.	I try to avoid future setbacks.	Ik probeer toekomstige tegenslagen te vermijden.
37.	Even if my circumstances in life are favorable, I will not be consistently happy unless I develop the right understanding and character.	Ik voel me alleen gelukkig als ik me kan blijven ontwikkelen, zelfs als ik alles dik voor elkaar heb.
38.	To flourish as a human being all you need is good understanding and good character.	Alles wat nodig is om je als mens te ontplooien is kennis en inzicht, en een goed karakter.
39.	I need quite a lot of money in order to be happy. (R)	Meer dan genoeg geld hebben is voor mij een voorwaarde om gelukkig te zijn.
40.	Having good understanding and good character is all that is required in order to be happy.	Alles wat nodig is om gelukkig te zijn is inlevingsvermogen en een deugdzaam karakter.
41.	I need to be well thought of by others in order to be happy. (R)	Om me gelukkig te voelen is het belangrijk dat anderen positief over mij denken.
42.	Bad luck could stop me being happy. (R)	Pech kan ervoor zorgen dat ik mij niet meer gelukkig voel.
43.	If things don’t go well for my friends, I can’t lead a good life. (R)	Ik kan geen prettig leven leiden als mijn vrienden kampen met tegenslagen.
44.	If things don’t go well for me, I can’t lead a good life. (R)	Als dingen voor mij niet voorspoedig gaan, kan ik geen goed leven leiden.
45.	Recognizing that being the best kind of person is the only thing that matters helps me face how	Door het inzicht dat ‘een goed mens zijn’ het enige is wat telt in het leven, kan ik goed omgaan met de

	short life is.	vergankelijkheid van het leven.
46.	I need to be in good health in order to be happy. (R)	Ik moet in goede gezondheid zijn om me gelukkig te voelen.
47.	I regularly spend time reflecting on what is most important for me to live a good and happy life.	Ik besteed regelmatig tijd aan het nadenken over wat het belangrijkste is voor mij om een prettig en gelukkig leven te leiden.
48.	Improving my ability to reason well and develop good judgement is very important.	Het continue verbeteren van mijn denk- en oordeelsvermogen, is voor mij heel belangrijk.
49.	I regularly think about the inevitability of death.	Ik denk regelmatig aan de onvermijdelijkheid van de dood.
50.	Pleasure is one of the most important things in life. (R)	'Plezier is' één van de belangrijkste dingen in het leven.
51.	I often do what I feel like doing rather than doing what I believe to be the right thing. (R)	Ik kies vaak voor mezelf, ook al weet ik dat moreel gezien andere keuzes beter zijn.
52.	I see my happiness as fully compatible with caring for other people.	'Gelukkig zijn' en 'zorgen voor anderen' zijn voor mij onlosmakelijk verbonden.
53.	If things don't go well for my family, I can't lead a good life. (R)	Ik kan geen prettig leven leiden als het niet goed gaat met mijn familie.
54.	it is possible to lead a happy life even after the death of someone we love	Het is wel degelijk mogelijk om een gelukkig leven te lijden na het overlijden van een geliefde
55.	It is possible to lead a happy life even when we have lost success or wealth	Ook als het minder gaat in termen van succes en welvaart is het mogelijk om gelukkig te leven.
56.	The best idea is to give up trying	Het is heel verstandig om je te

	to control people and instead focusing on ourselves and our own behavior.	richten op jezelf en je eigen gedrag in plaats van te proberen het gedrag van anderen te controleren.
57.	As long as you have the right attitude, you can lead a good life even in the most difficult circumstances.	Zolang je de juiste instelling hebt, kan je zelfs onder de meest moeilijke omstandigheden een goed leven leiden.
58.	I spend quite a lot of time dwelling on what has gone wrong in the past. (R)	Ik spendeer aardig wat tijd aan het piekeren over dingen die in het verleden zijn misgegaan.
59.	We can sometimes influence how others behave but we cannot completely control other people.	Soms hebben we invloed op het gedrag van anderen, maar onze controle over andere mensen is zeer beperkt.
60.	I cannot really be harmed by what other people say.	Ik kan niet écht worden gekwetst door wat andere mensen zeggen.
61.	We can't really control other people.	We hebben niet écht macht en controle over andere mensen.
62.	Nothing except our judgements and voluntary actions are truly under our control in life.	Met uitzondering van onze eigen oordelen en vrijwillige acties, is er in het leven niets waar we écht controle over hebben.
63.	I pay attention to my thoughts about what I intend to do before I act on them.	Ik denk eerst goed na voordat ik daadwerkelijk actie onderneem.
64.	We should learn to accept things that are outside our control.	We zouden moeten leren dingen te accepteren die buiten onze macht liggen.
65.	Peace of mind comes from accepting that you should not care about things outside your control.	´Rust in je hoofd´ krijg je als je accepteert dat het geen zin heeft om je druk te maken over zaken waar je geen invloed op hebt.

66.	Our voluntary actions are amongst the only things truly under our control in life.	Onze vrijwillige handelingen is zo'n beetje het enige waar we in het leven daadwerkelijk controle over hebben.
67.	I can't control how I feel. (R)	Ik heb geen controle over hoe ik mij voel.
68.	Our judgements are amongst the only things truly under our control in life.	Onze eigen opvattingen is één van de weinige dingen waar we echt controle over hebben in het leven.
69.	Even when I can't do anything more about a problem, I still worry about it a lot. (R)	Ook als ik niets meer aan een probleem kan veranderen, blijft het door mijn hoofd spoken.
70.	Some things that matter a lot for my happiness are outside my control. (R)	Over sommige dingen die mijn geluk bepalen, heb ik geen controle.
71.	I often think about how small humanity is compared to how big the universe it.	Vaak denk ik aan hoe immens groot het universum is en hoe nietig wij zijn als mensheid.
72.	I consider myself a part of the human race, in the same way that a limb is a part of the human body.	Zoals een ledemaat onderdeel is van het menselijk lichaam, zo zie ik mijzelf als onderdeel van de mensheid.
73.	The universe is a living thing.	Het universum is een levend organisme.
74.	There is a rational and orderly plan in the universe and in the causation of events.	Een rationeel en gestructureerd plan ligt ten grondslag aan ons universum en is de oorzaak van gebeurtenissen.
75.	I view other people as fellow members of the brother/sisterhood of humankind.	Ik zie andere mensen als geestverwanten van het bondgenootschap van de mensheid.
76.	Viewing other people as fellow members of the brother/sisterhood of humankind helps me to avoid	Het helpt me om gevoelens van boosheid en rancune te vermijden door andere mensen te zien als

	feeling angry and resentful.	clubgenoten van het bondgenootschap van de mens.
77.	Every day I think about how small we are in comparison with the whole universe.	Iedere dag denk ik wel aan hoe nietig we als mens zijn in het licht van het immens grote universum.
78.	The universe is benevolent in its overall plan.	In de kern is het universum goedaardig en welwillend.
79.	Every day I reflect on how all human beings are just like me in important ways.	Iedere dag besef ik mij dat alle mensen in essentie hetzelfde zijn als ik.
80.	Every day I think about our place in the universe.	Ik denk iedere dag aan onze plaats als mensheid in het universum.
81.	There is no overall plan to the universe. (R)	Een plan van het universum, of kosmische sturing, bestaat niet.
82.	The universe embodies wisdom.	Het universum belichaamt wijsheid.

Appendix B

Riverside Eudaimonia Scale (Margolis et al., 2022)

1.	My life has been full of learning, changing, and growth.	Mijn leven staat in het teken van leren, aanpassen, veranderen en persoonlijke groei.
2.	I have been able to apply my unique abilities to worthwhile tasks	In het algemeen heb ik de mogelijkheid om mijn kennis en vaardigheden in te zetten voor zinvolle en belangrijke zaken.
3.	I know what is really important in life.	Ik houd me vooral bezig met zaken die echt belangrijk zijn in het leven.
4.	I have cultivated meaningful personal relationships with others.	Ik besteed veel aandacht aan betekenisvolle en persoonlijke relaties met anderen.
5.	I have realized my creative, artistic, intellectual, or athletic potential.	In mijn leven richt ik me op het realiseren van mijn creatieve, artistieke, intellectuele, sociale en atletische potentie.

Appendix C

Subjective Happiness Scale (Lyubomirsky & Leper, 1999)

1.	In general, I consider myself (not a very happy person; a very happy person)	Over het algemeen, beschouw ik mijzelf als een (niet gelukkig persoon; zeer gelukkig persoon).
2.	Compared with most of my peers, I consider myself: (less happy; more happy)	In vergelijking met familie en vrienden beschouw ik mijzelf als (minder gelukkig; meer gelukkig).
3.	Some people are generally very happy. They enjoy life regardless of what is going on, getting the most out of everything. To what extent does this characterization describe you? (not at all; a great deal)	Sommige mensen zijn over het algemeen zeer gelukkig. Ze genieten van het leven ongeacht de situatie of wat er gebeurt. Ze zijn in staat om veel uit het leven te halen. In welke mate beschrijft dit jou? (Helemaal niet; helemaal wel).
4.	Some people are generally not very happy. Although they are not depressed, they never seem as happy as they might be. To what extent does this characterization describe you? (not at all; a great deal)	Sommige mensen zijn over het algemeen erg ongelukkig. Ook al zijn ze niet depressief, ze zijn nooit zo gelukkig als dat ze zouden kunnen zijn. In welke mate beschrijft dit jou? (Helemaal niet; helemaal wel).

Appendix D

The Flourishing Scale (Diener et al., 2009)

1.	I lead a purposeful and meaningful life.	Ik leid een zinvol en betekenisvol leven.
2.	My social relationships are supportive and rewarding.	Mijn relaties met anderen geven mij plezier, steun en voldoening.
3.	I am engaged and interested in my daily activities.	Ik voel mij zeer betrokken bij mijn dagelijkse activiteiten die ik interessant en zinvol vind.
4.	I actively contribute to the happiness and well-being of others.	Ik draag actief bij aan het geluk en welzijn van anderen.
5.	I am competent and capable in the activities that are important to me.	Ik heb de competenties en vaardigheden om de activiteiten (werk, studie, sport, hobby, etc.) te doen die voor mij belangrijk zijn.
6.	I am a good person and live a good life.	Ik zie mijzelf als een goed persoon die een goed leven leidt.
7.	I am optimistic about my future.	Ik ben optimistisch over mijn toekomst.
8.	People respect me.	Mensen gaan respectvol met mij om.

Appendix E

Locus of Control questionnaire (Rotter, 1966)

1. Als je werkelijk goed je best doet, bereik je ook veel. (I)
2. De meeste narigheden in je leven overkomen je zonder dat je er veel aan kunt doen. (E)
3. Hogerop komen in het leven heb je grotendeels zelf in de hand. (I)
4. Door hard te werken kan iedereen zijn lot verbeteren. (I)
5. Hoe sterk iemand zich ook inspant, vaak wordt zijn waarde niet erkend. (E)
6. Het heeft geen zin om te proberen je recht te krijgen bij de overheid, want

die trekt zich van de gewone burger toch niets aan. (E)
7. Wat mij overkomt heb ik helemaal zelf in de hand. (I)
8. Ik voel me dikwijls een slachtoffer van de omstandigheden. (E)
9. Succes in je werk of studie hebben is een kwestie van hard werken. (I)
10. De werkelijke beslissingen worden genomen door een paar mensen die de macht hebben en de gewone burgers kan daar niet zoveel aan doen. (E)
11. Vaak heb ik het gevoel mijn eigen leven niet in de hand te hebben. (E)
12. Ik heb het gevoel dat ik invloed heb op de dingen die mij overkomen. (I)
13. Heel wat ongelukken zijn gewoon een kwestie van pech hebben. (E)
14. De meeste ongelukken zijn het gevolg van eigen onvoorzichtigheid. (I)
15. Veel beslissingen zouden we net zo goed kunnen nemen door een munt op te gooien. (E)
16. Je bent nu eenmaal een brokkenmaker of niet, en daar is niet zo erg veel aan te veranderen. (E)
17. Ongelukken overkomen je, daar kun je meestal zelf niets aan doen. (E)

Appendix F

Emotion Regulation Questionnaire (Gross & John, 2003)

1.	When I want to feel more positive emotion (such as joy or amusement), I change what I'm thinking about.	Wanneer ik me prettiger wil voelen (zoals plezierig of ontspannen), dan pas ik mijn gedachten daarop aan.
2.	I keep my emotions to myself.	Als dat gepast is, houd ik mijn emoties voor mijzelf.
3.	When I want to feel less negative emotion (such as sadness or anger), I change what I'm thinking about.	Wanneer ik minder negatieve emoties wil ervaren (zoals verdriet of woede), verander ik mijn denkwijze.
4.	When I am feeling positive emotions, I am careful not to express them.	Als ik positieve emoties ervaar terwijl dat niet gepast is, probeer ik die niet te uitten.
5.	When I'm faced with a stressful situation, I make myself think about it in a way that helps me stay calm.	Wanneer ik mijzelf in een stressvolle situatie bevind, probeer ik rustig te blijven door mijn gedachten over de situatie te veranderen.
6.	I control my emotions by not expressing them.	Ik heb de regie over mijn eigen emoties en of ik die wel of niet uit.
7.	When I want to feel more positive emotion, I change the way I'm thinking about the situation.	Als ik meer positieve emoties wil ervaren, verander ik de wijze waarop ik tegen de situatie aankijk.
8.	I control my emotions by	Ik heb controle over mijn

	changing the way I think about the situation I'm in.	emoties door mijn kijk op de situatie te veranderen.
9.	When I am feeling negative emotions, I make sure not to express them.	Als ik ongewenste negatieve emoties ervaar, zorg ik ervoor dat ik deze niet uit.
10.	When I want to feel less negative emotion, I change the way I'm thinking about the situation.	Als ik minder negatieve emoties wil ervaren, verander ik mijn manier van denken over de situatie.

Appendix G

Valued living questionnaire (Wilson & Groom, 2002)

1.	Family (other than marriage or parenting)	Familie (anders dan huwelijk of ouderschap)
2.	Marriage/couples/intimate relations	Huwelijk, koppels, intieme relaties
3.	Parenting	Ouderschap
4.	Friends/social life	Vrienden/sociaal leven
5.	Work	Werk
6.	Education/training	Studie
7.	Recreation/fun	Recreatie/vrije tijd
8.	Spirituality	Spiritualiteit
9.	Citizenship/community Life	Leefomgeving en maatschappij
10.	Physical self-care (diet, exercise, sleep)	Fysieke en mentale gezondheid (dieet, beweging, slaap)

Appendix H

Personal Worldview Questionnaire (Bigger Picture Foundation, 2007)

1.	In the beginning, original matter in the universe was formed by a ‘big bang’ explosion (fire), not ‘by water’.	Het heelal is ontstaan door de oerknal, een explosie van vuur.
2.	Scientists have demonstrated that, with certain chemicals and conditions, life can occur spontaneously.	Wetenschappers hebben aangetoond dat met bepaalde chemicaliën en condities, leven spontaan kan ontstaan.
3.	Humans developed from less advanced forms of life not guided by God.	De mensheid is geëvolueerd uit primitieve levensvormen, *niet* geleid door God.
4.	Humans developed from less advanced forms of life but guided by God.	De mensheid is geëvolueerd uit primitieve levensvormen, maar wel geleid door God.
5.	God created the first human in Adam, a real fully mature man, within the last 10,000 years	God heeft de eerste mens (Adam) geschapen.
6.	Within just six 24-hour ‘solar’ days the earth, entire universe, and all life were intelligently created ‘out of nothing’.	Uit het ‘niets’ zijn binnen slechts zes dagen de aarde, het volledige universum en leven op aarde ontstaan.
7.	Multiple human races, in varying degrees of advancement, have	Leven op aarde (mensen, dieren, planten, etc.) ontwikkelt zich door het

	developed through the process of evolution.	proces van evolutie.

Appendix I

The Moral Character Questionnaire (Furr et al., 2022)

1.	I would say that I am a good person.	Ik zou mijzelf beschrijven als een eerlijk en integer persoon.
2.	I am not a particularly virtuous person. (R)	Ik ben niet bepaald een persoon met uitgesproken normen en waarden. (R)
3.	I am a person of strong moral character.	Ik ben een persoon met een sterk moreel kompas.
4.	I consistently want to do the moral thing.	Ik streef voortdurend ethisch handelen na.
5.	I tend to act morally.	Mijn leidraad is moreel te handelen.
6.	I believe that being moral is important.	Ethisch handelen is voor mij heel belangrijk.
7.	I don't believe that honesty is that important. (R)	Eerlijkheid staat bij mij niet hoog in het vaandel. (R)
8.	I consistently tell the truth.	Het vertellen van de waarheid staat bij mij altijd voorop.
9.	I am an honest person.	Ik ben een integer persoon.
10.	I want to be honest even when it's hard.	Ik wil altijd eerlijk zijn, ook als het moeilijk is.
11.	I am a compassionate person.	Ik heb begrip voor zorgen en problemen van andere mensen.
12.	I care a lot about helping other people.	Ik vind het belangrijk om hulp te geven aan mensen die dat nodig hebben.

13.	I often do things that help other people.	Ik doe vaak dingen om andere mensen te helpen.
14.	It's not important to me to be compassionate. (R)	Open staan voor zorgen en problemen van andere mensen is niet mijn ding. (R)
15.	I am a fair person.	Ik ben een eerlijk persoon.
16.	I treat people fairly.	Ik ga fatsoenlijk om met andere mensen.
17.	I don't believe it is important to treat others fairly. (R)	Anderen eerlijk en rechtvaardig behandelen is niet het allerbelangrijkste voor mij. (R)
18.	I want to treat everyone as fairly as possible.	Ik wil iedereen zo eerlijk en rechtvaardig mogelijk behandelen.
19.	I am a loyal person.	Ik ben het type persoon dat trouw is aan anderen.
20.	I shift my loyalties easily. (R)	Ik heb de neiging om andere mensen te laten vallen als het mij goed uitkomt. (R)
21.	I believe it is important not to betray people.	Ik vind het belangrijk om niet te roddelen of achter de rug van anderen te praten.
22.	I want to be loyal even when it's hard.	Ik wil een loyaal en trouw persoon zijn, ook onder moeilijke omstandigheden.
23.	I would say that I'm a wholesome person, relatively "pure."	Ik vind mijzelf een aardig en oprecht persoon.
24.	I think it is important to be wholesome and decent.	Ik vind het belangrijk om aardig en beleefd te zijn.
25.	I will admit that some things	Ik geef toe dat ik soms

	I do are indecent. (R)	dingen doe die niet door de beugel kunnen. (R)
26.	I want to think and act without vulgarity or filth.	Met vulgariteit en obsceniteit wil ik niets te maken hebben.
27.	I am a respectful person.	Ik ben een persoon die respect heeft voor anderen.
28.	It is not important to show respect to tradition and authority. (R)	Het is niet belangrijk om traditie en autoriteit te respecteren. (R)
29.	I treat others with respect.	Ik behandel anderen met respect.
30.	I do not want to be rude or irreverent toward others.	Ik wil geen onbeleefde of onbeschaafde indruk maken op anderen.

Appendix J

Table J

Descriptive Statistics for All SABS Items

Item	*M*	*SD*	*Skewness*	*Kurtosis*
SABS1	4.1	1.5	-0.32	-0.77
SABS2	5.0	1.0	-0.59	0.45
SABS3	4.1	1.5	-0.12	-1.09
SABS4	5.3	1.1	1.00	1.36
SABS5	4.6	1.4	-0.47	-0.27
SABS6	4.7	1.5	-0.65	-0.19
SABS7	5.8	0.9	-0.57	0.33
SABS8	3.4	1.7	0.18	-1.26
SABS9	5.4	1.1	-0.90	0.90
SABS10	5.5	1.1	-1.17	1.16
SABS11	5.4	1.3	-0.75	0.52

SABS12	5.3	1.1	-0.72	0.78
SABS13	5.7	0.9	-0.78	1.27
SABS14	4.0	1.6	-0.15	-1.00
SABS15	4.6	1.2	-0.42	-0.34
SABS16	5.8	1.0	-0.90	0.95
SABS17	5.2	1.2	-1.07	1.66
SABS18	6.0	1.0	-1.61	4.38
SABS19	5.7	1.0	-1.10	2.00
SABS20	4.3	1.7	-0.22	-0.89
SABS21	5.3	1.2	-0.92	0.84
SABS22	4.9	1.3	-0.64	0.02
SABS23	5.7	1.0	-0.70	0.64
SABS24	3.1	1.4	0.73	0.39
SABS25	4.7	1.3	-0.62	-0.21
SABS26	4.7	1.2	-0.51	-0.41
SABS27	4.9	1.6	-0.53	-0.59

SABS28	**1.6**	**0.7**	**0.71**	**0.13**
SABS29	4.1	1.5	-0.02	-1.03
SABS30	3.5	1.5	0.17	-1.05
SABS31	**1.5**	**0.8**	**2.18**	**6.51**
SABS32	4.2	1.5	-0.11	-1.09
SABS33	3.3	1.4	0.75	0.33
SABS34	4.4	1.6	-0.13	-1.02
SABS35	5.0	1.2	-0.74	0.26
SABS36	4.8	1.2	-0.51	-0.17
SABS37	4.7	1.4	-0.48	-0.46
SABS38	4.4	1.4	-0.32	-0.61
SABS39	3.9	1.5	0.27	-0.82
SABS40	3.4	1.5	0.31	-0.85
SABS41	3.0	1.3	0.84	0.42
SABS42	3.2	1.2	0.80	0.56
SABS43	3.9	1.4	0.13	-0.86

SABS44	4.2	1.3	-0.10	-0.81
SABS45	3.7	1.5	-0.01	-0.57
SABS46	2.7	1.3	0.93	0.44
SABS47	5.3	1.2	-0.88	0.70
SABS48	5.3	1.2	-0.83	0.96
SABS49	4.0	1.8	-0.09	-1.18
SABS50	2.11	1.2	1.53	2.76
SABS51	4.7	1.4	-0.52	-0.59
SABS52	4.6	1.4	-0.29	0.66
SABS53	2.8	1.4	0.86	0.27
SABS54	5.6	1.0	-0.74	0.67
SABS55	5.6	1.0	-1.16	2.14
SABS56	5.9	1.0	-1.24	2.90
SABS57	4.9	1.5	-0.71	-0.04
SABS58	4.9	1.5	-0.66	-0.35
SABS59	5.2	1.4	-0.84	-0.05

SABS60	2.4	1.5	1.19	0.65
SABS61	5.0	1.4	-0.38	-0.65
SABS62	4.3	1.5	-0.27	-0.90
SABS63	5.1	1.3	-0.89	0.38
SABS64	5.8	1.0	-1.07	1.42
SABS65	5.6	1.3	-1.08	1.16
SABS66	4.6	1.4	-0.45	-0.57
SABS67	4.7	1.5	-0.45	-0.73
SABS68	4.5	1.4	-0.38	-0.64
SABS69	2.4	1.3	1.19	1.26
SABS70	2.6	1.2	1.03	1.23
SABS71	4.0	1.9	-0.12	-1.22
SABS72	3.5	1.6	0.25	-0.77
SABS73	4.1	1.8	-0.22	-0.88
SABS74	3.2	1.6	0.22	-0.79
SABS75	3.6	1.6	-0.09	-0.90

SABS76	3.2	1.6	0.25	-0.97
SABS77	3.3	1.8	0.36	-1.13
SABS78	4.3	1.4	-0.36	0.17
SABS79	3.5	1.6	0.27	-0.98
SABS80	3.0	1.7	.54	-0.92
SABS81	3.7	1.8	0.15	-0.89
SABS82	3.9	1.6	-0.13	-0.40

Note. Bold items indicate deviation from normality.

Appendix K

Table K

VIF and Tolerance Values for All SABS Items

Item	VIF	Tolerance
SABS1	2.34	.43
SABS2	2.25	.44
SABS3	2.40	.42
SABS4	1.81	.55
SABS5	2.31	.43
SABS6	2.81	.36
SABS7	3.11	.32
SABS8	1.61	.62
SABS9	1.99	.50
SABS10	2.25	.44
SABS11	2.14	.47

SABS12	2.85	.35
SABS13	2.08	.48
SABS14	2.09	.48
SABS15	1.77	.57
SABS16	2.09	.48
SABS17	2.05	.49
SABS18	2.44	.41
SABS19	2.44	.41
SABS20	3.07	.33
SABS21	2.25	.45
SABS22	2.48	.40
SABS23	3.04	.33
SABS24	2.92	.34
SABS25	2.70	.37
SABS26	2.12	.47
SABS27	2.79	.36

SABS29	1.97	.51
SABS30	2.03	.49
SABS32	1.80	.56
SABS33	2.52	.40
SABS34	2.22	.45
SABS35	2.21	.45
SABS36	2.12	.47
SABS37	2.17	.46
SABS38	2.10	.48
SABS39	2.28	.44
SABS40	2.63	.38
SABS41	2.42	.41
SABS42	1.96	.51
SABS43	2.13	.47
SABS44	2.04	.49
SABS45	2.19	.46

SABS46	1.85	.54
SABS47	2.03	.49
SABS48	2.27	.44
SABS49	2.23	.45
SABS50	1.88	.53
SABS51	2.15	.47
SABS52	1.94	.52
SABS53	2.28	.44
SABS54	1.60	.62
SABS55	2.18	.46
SABS56	1.90	.53
SABS57	2.07	.48
SABS58	3.38	.30
SABS59	2.20	.45
SABS60	2.18	.46
SABS61	2.58	.39

SABS62	2.16	.46
SABS63	2.01	.50
SABS64	1.79	.56
SABS65	1.90	.53
SABS66	2.11	.48
SABS67	1.67	.60
SABS68	1.69	.60
SABS69	3.21	.31
SABS70	1.82	.55
SABS71	2.59	.39
SABS72	2.08	.48
SABS73	2.25	.45
SABS74	2.40	.42
SABS75	2.86	.35
SABS76	2.26	.44
SABS77	3.30	.30

SABS78	1.88	.53
SABS79	1.84	.54
SABS80	3.17	.32
SABS81	2.32	.43
SABS82	3.01	.33

Appendix L

Figure L1

Scree Plot based on Principal Axis Factoring with 79 SABS items.