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Mainstreaming environmental, social and governance integration in investment practices in South Africa: A proposed framework

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Orientation: Responsible investment (RI) is gaining prominence globally. As South African asset managers increasingly apply environmental, social and governance (ESG) criteria, they require improved guidance on the integration thereof in mainstream investment practices.

Research purpose: A best-practice framework for ESG integration is proposed based on empirical results and international standards.

Motivation for the study: The mainstreaming of ESG is examined in South Africa, a country where integrated disclosure by listed companies is well established and asset managers are challenged to meet international standards while facing emerging market realities.

Research approach/design and method: Selected South African asset managers completed a questionnaire and semi-structured interviews were conducted with national and international asset managers to gauge their views on ESG integration best practices.

Main findings: The findings highlight the limited local opportunity set and scope to increase client demand for RI in South Africa. Inconsistencies were noted in how the local asset managers incorporated material ESG information in their investment policies and practices.

Practical/managerial implications: ESG integration should form part of the entire investment process. To effectively apply the proposed ESG framework, Investment managers should formalise and publish comprehensive RI policies and develop internal ESG data provision systems covering material subjects defined by international ESG disclosure standards. Invest managers are encouraged to conduct ongoing engagement with investee companies on key ESG issues.

Contribution: While the need for ESG integration is recognised, local asset managers require improved guidance on the incorporation of complex ESG issues. A best-practice framework for ESG integration is hence proposed.

Keywords: responsible investment; ESG; integration; framework; asset management; South Africa.

Introduction

Responsible investment (RI) decisions that cover material environmental, social and governance (ESG) factors in addition to financial performance considerations are gaining prominence in various developed and emerging economies (Bell & Van Vuuren 2022; Global Sustainable Investment Alliance [GSIA] 2021). In terms of assets under management (AUM), RI globally increased by 15% between 2018 and 2020, and AUM exceeded US$35 trillion by 2020 (GSIA 2021). The coronavirus pandemic exemplified the relevance and importance of sound ESG policies, practices and investment decision-making. Growing awareness of systemic risks, be they in the form of a pandemic or climate change, further strengthens the case for long-term focussed investment decision-making (Broadstock et al. 2021).

The Principles for Responsible Investment (PRI) defines ESG integration as 'the explicit and systematic inclusion of ESG issues in investment analysis and investment decision' (PRI and the Chartered Financial Analyst Institute 2018:2). As part of the mainstreaming of ESG matters, an evolution is occurring in terms of the information that is considered material (Jebe 2019). Investors encounter different information sets, and there is growing recognition that financial and non-financial information should be considered when making investment and voting decisions. As investors in the increasingly digital world experience a considerable information overload, it remains to be seen how digital technologies will succeed in assisting them to weigh the relative magnitude and nature of the information at their disposal. Human insight, specifically the expertise of analysts and portfolio managers, will remain key to assist in interpreting material information (Ali et al. 2021).

While the International Corporate Governance Network (ICGN 2019) acknowledges that sound communication is key to capital allocation, several stakeholders plead for better quality ESG information and more comprehensive reporting. Reporting standard setters hence attempt to align financial and non-financial reporting standards, including those of the International Accounting Standards Board (IASB), the International Integrated Reporting Council (IIRC), the Sustainability Accounting Standards Board (SASB) and the Global Reporting Initiative (GRI). By joining forces, these bodies aim to provide clear, concise standards for performance disclosure that will simplify corporate reporting to enable investors, and other stakeholders, to make better informed decisions (IIRC 2020).

More comprehensive reporting implies that investors expand the scope of information that they consider, including ESG factors that are likely to have financial consequences in the longer term. Some scholars argue that the inclusion of ESG considerations in investment processes can enhance market efficiency, as prices will more accurately capture the risks and opportunities related to investment decisions and corporate practices (Busch & Friede 2018; Friede, Busch & Bassen 2015). In line with the best practices promoted by PRI (2016), Cappucci (2018:24) argued that 'only full ESG integration has the potential to deliver on the goal of sustainable value creation for all investors'.

Integration in the form of integrated reporting by listed corporations is well established in South Africa (Mans-Kemp & Van der Lugt 2020). The country also offers considerable guidance to responsible investors. The Code for Responsible Investing in South Africa (CRISA) was released in 2011, along with the amended Regulation 28 of the *Pension Funds Act* (No 24 of 1956). This code was revised in 2022. The King IV Report on corporate governance furthermore urges local institutional investor organisations to practice RI (Institute of Directors South Africa [IoDSA] 2016). Despite such detailed RI guidance and agile financial market responses to investor demand, there is growing awareness that ESG investing practices should further evolve to meet changing expectations and to sustain trust. Reporting bodies such as the Task Force on Climate-Related Financial Disclosures (TCFD), GRI and SASB are thus increasingly focusing on how ESG practices should be scored and prioritised (Boffo & Patalano 2020). The development of a standardised framework to incorporate ESG considerations in the investment process can further enhance efforts to take RI mainstream in South Africa.

Against this background, the research objectives of this study were twofold: firstly, to provide an overview of ESG integration guidelines and practices globally and in South Africa and, secondly, to develop a best-practice framework for ESG integration. A mixed-methods approach was adopted to address these objectives. Local and international best-practice guidelines were firstly compared to determine the building blocks of a comprehensive ESG integration approach. Local information needs and structural features of the emerging market context were considered. Then, primary quantitative data were collected by distributing an electronic questionnaire to selected South African asset managers. Lastly, semi-structured interviews were conducted with global and local asset managers to discuss integration challenges and obtain suggestions to enhance the mainstreaming of ESG integration in investment practices.

To enable investors to make well-informed decisions and have access to a comprehensive set of relevant information, policymakers and practitioners should constantly account for key developments related to the ESG agenda. The quest for material and relevant information challenges the hypothetical informational efficiency of markets and the cognitive abilities of investment managers. More clarity is hence required on what integration of ESG information in investment management really involves. The following theoretical overview starts by revisiting the efficient market hypothesis (EMH) and responsible investor behaviour, with specific reference to prior research on ESG integration. Subsequently, the research methodology is discussed, and an overview of the questionnaire results and interview findings is provided. A best-practice framework for ESG integration is then proposed based on the reported results and international best-practice guidelines. Finally, recommendations for enhancing ESG integration in future are provided based on the derived conclusions.

Theoretical overview

Market efficiency and the behaviour of market participants will be explored first. Insights from behavioural finance scholars will be incorporated. Subsequently, RI approaches are covered whereafter an overview of prior research on ESG integration in investment practices and guidelines is provided.

(In)efficient behaviour of market participants

Efficient market hypothesis refers to the ongoing functioning of arbitrage in shaping share prices as a reflection of current investor sentiment about intrinsic value in an uncertain world (Sharma & Kumar 2020). The EMH postulates a frictionless market without transaction costs where new information is freely available and instantaneously reflected in share prices. The values of shares will thus be impacted when new information becomes available, including material societal developments and notions of corporate responsibility that are anticipated to impact the future operations of companies (Fama 1970; Lo 2007).

In an efficient market, competing investors engage in independent information collection (Reilly & Brown 2003).

Depending on the level of market efficiency, publicly available information and private information may be reflected in share prices (Elton et al. 2014). Despite scholars reporting varying levels of efficiency in developed and emerging markets (Degutis & Novickytė 2014; Malkiel 2005), the extent to which all information is fully reflected in share prices is debatable.

Investors attempt to balance their desired returns with acceptable risk levels by constructing diversified portfolios in line with modern portfolio theory (Markowitz 1952). By accounting for country- and industry-specific realities, investors aim to reduce the impact of asset-specific risks through diversification. If investors adopt a passive approach by holding the market portfolio, the only risk that theoretically matters is a company's sensitivity (beta) to the market portfolio (Schoenmaker & Schramade 2019).

Building on the foundations of modern portfolio theory, the capital asset pricing model (CAPM) and the arbitrage pricing theory propose that risk is driven by diverse factors. Inevitably, incomplete or misinterpreted information might lead to misinformed expectations of risk, overly optimistic return expectations and unexpected relations between seemingly uncorrelated assets. Despite such critique, mainstream investment portfolios are still primarily constructed based on modern portfolio theory (Elton et al. 2014; Peylo 2012).

Yet, by expanding their opportunity sets, investors might be able to construct more robust portfolios. For instance, events such as the dot-com bubble (Goodnight & Green 2010), the 2008 global financial crisis (Ball 2009) and the coronavirus pandemic (Vasileiou 2021) have illustrated that markets are not as efficient as predicted by the EMH. Investors are also not necessarily rational decision-makers, as they might experience cognitive limitations and information overload (Norman et al. 2017). Behavioural finance scholars highlight a range of biases that investors might exhibit, including loss aversion (Kahneman & Tversky 1979), overreaction (De Bondt & Thaler 1985), herding behaviour (Huberman & Regev 2001) and overconfidence (Sanchez & Dunning 2018).

Fama (1970) acknowledged that trading costs, information that is not freely available and disagreement between investors could be potential causes of inefficiencies. Yet Fama (1998) also asserted that anomalies tend to disappear over time, and hence markets tend to become more efficient over longer-term periods. Research has shown that share market participants often make material mistakes and frequently over-react or under-react to news of corporate success or failure (Eachempati & Srivastava 2021; Gang, Qian & Xu 2019). The proponents of behavioural finance theory therefore argue that inefficient markets are the norm and that efficient markets are the exception (Vasileiou 2021; Willett 2022; Yen & Lee 2008).

Grossman and Stiglitz (1980) provided a fundamental argument as to why markets cannot be in a permanent state of competitive equilibrium. They argued that such a market would disincentivise rational investors to gather more information and conduct research to make informed investment decisions. A level of inefficiency, especially over the short term, should therefore be expected.

If the EMH is seen as a description of how prices are formed, as opposed to a 'perfect market state', investors with an informational advantage can make abnormal profits. The question thus arises: what would happen if economic information was fully exploited but information regarding interconnected ESG domains is ignored (Elton et al. 2014)? By incorporating such information, markets will arguably not only become more efficient but can also contribute to more sustainable outcomes. It should be noted that relevant and material information is essential to address cognitive errors, rather than merely providing more information to investors (Norman et al. 2017). Furthermore, an appropriate reporting framework is required to assist investors in obtaining relevant financial and ESG information from investee firms.

Responsible investment approaches

Various techniques can be used to apply ESG principles when making RI decisions, including screening (positive, negative and best-in-class), shareholder activism and impact investing. These approaches reflect different levels of emphasis on excluding or rewarding companies based on normative screening criteria, comparing companies with sector peers, as well as active engagement between investors and representatives of investee companies (Cappucci 2018; Eccles & Viviers 2011; Van Duuren, Plantinga & Scholtens 2016).

Eccles, Kastrapeli and Potter (2017) found that a significant number of investors globally exclude certain shares or sectors based on ESG principles. Yet only approximately one-fifth of the global institutional investors who participated in their study preferred full ESG integration. Still Cappucci (2018), the Chartered Financial Analyst Institute (CFA Institute 2018) and Orsagh, Sloggett and Georgieva (2018) advocate for a full ESG integration approach. Therefore, investment processes should systematically and explicitly incorporate ESG risks and opportunities (Eccles et al. 2017).

While some scholars (Cappucci 2018; Eccles et al. 2017; Hayat & Orsagh 2015) made a distinction between active ownership and ESG integration as separate RI techniques, the authors of this article view active ownership as part of the ESG integration process. Their argument is based on the conviction that an investor's responsibility lasts long after an initial buy-decision has been made. Ongoing engagement and informed voting are thus essential. Furthermore, effective engagement depends on conducting ongoing rigorous research.

Multiple data providers and rating agencies provide ESG data, including MSCI, S&P Global, Bloomberg, Sustainalytics and Refinitiv. Divergences among the provided ESG ratings relate to, *inter alia*, definitions of ESG, the underlying ESG indicators and the relative weights that are assigned to different ESG topics. Although such ratings can be a useful starting point as an initial screen to highlight risks (low scores) or opportunities (high scores), more clarity is required on what is considered material considerations for different industries and companies (Khan, Serafeim & Yoon 2016; Schramade 2016).

Overview of research on environmental, social and governance integration in investment practices and guidelines

Discussions on the linkages between ESG considerations and financial performance objectives remain an ongoing debate (Friede et al. 2015; Khan 2019; Schiehll & Kolahgar 2021). Given market inefficiencies, ESG information is not per se effectively priced into expected returns (Derwall, Koedijk & Ter Horst 2011). Furthermore, the market appears to be better at pricing negative ESG information than incorporating positive ESG information (Capelle-Blancard & Petit 2019). This tendency confirms a key insight from seminal behavioural finance scholars Kahneman and Tversky (1979), namely, that investors are loss averse. As such, losses tend to have a larger impact on investment decision-making than gains of similar magnitude.

Several researchers have investigated portfolio changes when investors factor in ESG considerations. If individual shares have outperformed a given benchmark, an aggregate portfolio comprising such shares is expected to also outperform the market. However, mixed results were reported on the impact of ESG considerations at portfolio and mutual fund levels depending on the time frame and heterogeneity of investor portfolios (Capelle-Blancard & Monjon 2014; Derwall et al. 2011; Friede et al. 2015; Pastor, Stambaugh & Taylor 2019).

Sherwood and Pollard (2018) found that emerging market indices that integrate ESG considerations outperformed non-ESG integrated indices on a risk-adjusted basis. This finding has important implications for investors and asset managers in emerging markets. Such markets are often characterised by poverty, inequality, corruption and environmental degradation. Key enablers for RI in emerging markets include the availability and quality of ESG information, evidence of a so-called learning effect among local investors according to which they recognise the positive effects of taking ESG considerations into account, and openness to adopt alternative investment techniques (Eccles et al. 2017; Orsagh et al. 2018).

Based on modern portfolio theory, investment portfolios that avoid certain shares or sectors may be less diversified, thereby resulting in lower risk-adjusted returns. Yet, In, Rook and Monk (2019) noted that concentrated portfolios that focus on specific risk considerations may lead to outperformance. Such an approach requires detailed and granular ESG data. Instead of creating a concentrated portfolio based on exclusionary screening, it can be argued that better ESG integration can lead to a superior understanding of both conventional and unconventional risks and opportunities, which in turn enables more efficient portfolio construction.

Frameworks for connecting sustainability and financial performance at company level and integrating ESG in investment decision-making point to an integrated ESG investment process that resembles a fundamental research process (Bertoneche & Van der Lugt 2013; Schramade 2016). Matthews and Rusinko (2010) indicated that fundamental analysts play a key role in integrating ESG considerations, as they provide a roadmap for portfolio managers.

According to Orsagh et al. (2019), the PRI (2016) and the CFA Institute (2018) offer practical guidance for ESG integration on three levels. The inner level refers to gathering information, while the intermediate level is related to investment analysis based on the collected information. The outer level covers portfolio construction, risk management, scenario analysis and asset allocation (Orsagh et al. 2019). The PRI (2016) outlines that ESG factors should be considered at every step of the investment process, *inter alia*, by conducting quantitative and qualitative analyses and exhibiting active ownership practices. The first research objective has been addressed by providing an overview of global and local ESG integration guidelines and practices.

Research design and methodology

A mixed-methods approach was adopted to address the second research objective. Primary quantitative data were collected by distributing an electronic questionnaire to selected South African asset managers, as outlined in the section ‘Quantitative data collection and analysis’. Semi-structured interviews were subsequently conducted with global and local asset managers to explore their views on ESG integration, as discussed in the section ‘Qualitative data collection and analysis’. Ethical clearance was obtained to collect the data. All respondents and interviewees provided informed consent to participate in the study. Their responses and feedback have been anonymised in the results section.

Quantitative data collection and analysis

A questionnaire was developed based on publicly available questionnaires from reputable RI institutions and the overview of prior research. The questionnaire was mainly used to determine how the selected respondents integrated ESG considerations into their investment management processes and practices. Some questions were rated on a semantic differential scale. Multiple choice questions on nominal and ordinal scales were also included. A summary of the questionnaire is provided in Table 1.

The online questionnaire was administered during the second semester of 2020. According to the Association for Savings and Investment South Africa (ASISA 2020), approximately 80% of all savings in the country were

TABLE 1: Summary of the online questionnaire.

Questions	Specifications
Do you consent to participate in this study? Please provide the name of your firm, your current position (e.g. analyst and portfolio manager) and years of experience.	Background information requested.
Is your firm a PRI signatory?	At the time when the questionnaire was completed.
What is the size of your largest long-only, retail equity fund (in terms of AUM)?	With reference to their largest retail class equity fund as on 30 June 2020, respondents were also requested to indicate their 1-year and 5-year performance (after fees).
Do environmental, social and governance (ESG) factors play a role in your investment process?	Response options were 'yes or no', with several response options linked to 'yes': implicitly incorporated; it is in the back of my mind when analysing a company; qualitative ESG information is used when analysing a company; ESG information is processed in a quantitative manner; both quantitative and qualitative ESG information is processed; ESG information is used in another way.
In your opinion, how relevant are the following investor abilities or characteristics to ESG integration?	Respondents had to indicate on a scale of 1 (not relevant) to 5 (very relevant), considering the following characteristics and abilities: Being able to describe ESG tactics and/or instructions; being able to list important ESG factors; availability of ESG data and/or research; amount of money spent on ESG; being able to provide concrete examples; ESG expertise (specialised staff and/or training).
During the last 3 years, did you sell or reduce your position in a stock (partly) because of poor environmental, social or governance concerns (risks)?	Specified during the preceding 3 years ending 30 June 2020.
During the last 3 years, did you buy or increase your position in a stock (partly) because of good environmental, social or governance concerns (opportunities)?	Specified during the preceding 3 years ending 30 June 2020.
In your opinion, what is the influence of ESG integration on risk-adjusted outperformances of a mainstream mutual fund?	Options given were negative, neutral or positive (to a limited degree, or to a significant degree in reducing risk and/or boosting long-term performance).
To what extent do you apply ESG analysis at the following levels?	On a scale of 1–5, respondents had to indicate how relevant they deemed ESG analysis at company, sector and country level.
How relevant do you deem the following sources of ESG information?	On a 1- to 5-point scale (1 = not relevant; 5 = very relevant), respondents had to indicate how relevant they deemed raw data, sustainability ratings, annual reports, sustainability reports, integrated reports, third-party data providers and sustainability indices.
Do you have a responsible investment policy? Is it publicly available? If yes, which approaches does the policy refer to?	Applicable approaches had to be selected from the following options: exclusion, norms-based, best-in-class screening, thematic investing, impact investing, engagement, voting, ESG integration and other (specify). More than one option could have been selected.
Does your fund apply a red flagging strategy?	Red flagging refers to monitoring and/or excluding shares related to considerable environmental, social and/or governance issues.
How relevant are ESG considerations for the following investment practices?	Based on the 5-point scale, respondents were requested to indicate the relevance of ESG considerations for the following: generating ideas, conducting analysis, constructing a portfolio, monitoring risk and when applying active ownership.
In your investment management process, which of the following aspects are adjusted when considering ESG information?	The following options were given: revenue growth, income margins, capital requirements and/or discount rate. All applicable options had to be selected.
I use ESG information to… (select the applicable options).	Multiple options were given (all applicable options should be selected): to specify and/or limit their investment universe, for the valuation of companies, to monitor a share (consider ESG-related news) and to manage risks.

Source: Adapted from Schramade, W., 2016, 'Integrating ESG into valuation models and investment decisions: The value-driver adjustment approach decisions', *Journal of Sustainable Finance and Investment* 6(2), 95–11. https://doi.org/10.1080/20430795.2016.1176425; Principles for Responsible Investment (PRI), 2016, *A practical guide to ESG integration for equity investing*, viewed 02 May 2020, from https://www.unpri.org/listed-equity/a-practical-guide-to-esg-integration-for-equity-investing/10.article; Van Duuren, E., Plantinga, A. & Scholtens, B., 2016, 'ESG integration and investment management process: Fundamental investing reinvented', *Journal of Business Ethics* 138(3), 525–533. https://doi.org/10.1007/s10551-015-2610-8; Swiss Sustainable Finance, 2020, *Swiss sustainable investment market study 2020*, viewed 07 July 2020, from https://www.sustainablefinance.ch/en/swisssustainable-investment-market-study-2020-_content---1--3037--35722.html.

PRI, Principles for Responsible Investment; AUM, assets under management; ESG, environmental, social and governance.

invested in retail funds, including institutional assets invested in such funds at that stage. The target population hence consisted of all investment professionals working as asset managers that manage long-only equity funds in the category classified as SA General Equity funds based on the ASISA (2020) classification scheme. The Morningstar database (as of 30 June 2020) was used to determine which funds should be included in the population. A non-probability sample was selected based on the criteria presented in Table 2.

TABLE 2: Sample selection criteria.

Characteristics	Selection criteria	Motivation
AUM	≥ R150 million	Ensured a broad investment base with sufficient liquidity.
Age	≥ 3 years	Ensured that funds with established track records and investment processes were selected.
Active versus passive funds	Active	Only active funds were considered.
Single-managed versus multi-managed funds	Single	To avoid duplication, only single-managed funds were considered, as they are the underlying building blocks of multi-managed funds.

AUM, assets under management; R, rand.

The population included 184 funds, of which 129 funds met the AUM criterion. Furthermore, 160 of the population funds had a track record exceeding 3 years. Based on the size and track record selection criteria (see Table 2), 71 funds were excluded. Funds managed by the same management team or having multiple fee classes were then removed to avoid duplication. After passive and multi-managed funds were removed, the sample consisted of 52 funds.

The questionnaire was completed by 38 respondents representing the sample funds, thereby resulting in a 73% response rate. The respondents were collectively responsible for R159 billion in AUM (57% of the total AUM of local general equity funds of R279bn by August 2020, as per the Morningstar database). The sample was hence deemed a fair representation of the population.

The questionnaire respondents were grouped into four categories to analyse and report their responses. Their self-reported responses to two questions centring on whether ESG factors have played a role in their investment process and their responses on the type of ESG integration approach that they followed were used to categorise the respondents as follows:

- Category 1 indicates minimal ESG integration, as these respondents indicated that they have not incorporated ESG information in a systematic manner.
- Category 2 reflects the systematic use of ESG research and/or analysis during the portfolio construction phase to either exclude or underweigh specific industries.
- Category 3 shows the systematic application of minimum ESG thresholds to exclude and/or underweigh specific shares.
- Category 4 reflects substantial integration as these respondents indicated that they explicitly and systematically included both quantitative and qualitative ESG information in their research process.

To summarise, the main difference between category 1 (respondents who have not incorporated ESG information in a systematic manner) and the rest of the categories is the focus on a systematic approach in categories 2, 3 and 4. The main difference between category 2 and category 3 is the focus on industry (category 2) versus specific shares (category 3). Seven respondents were included in category 1, six in category 2, 11 in category 3 and 14 in category 4.

For the semantic differential scale questions, means and standard deviations were calculated. *Z*-scores were furthermore computed to determine whether differences in the mean values were statistically significant. Pertaining to multiple-choice responses, percentages were calculated per category and for the overall number of respondents.

Qualitative data collection and analysis

Following the collection of the primary quantitative data, semi-structured interviews were conducted with 11 asset managers of selected global and local equity funds during the second semester of 2020. Table 3 provides details on the investment professionals who participated in the study.

TABLE 3: Details on the selected asset managers.

Asset manager	AUM (US$ billion)	Rank†	Country
1	5 976	1	United States of America
2	2 511	3	United States of America
3	2 243	5	Germany
4	519	43	United Kingdom
5	214	86	United Kingdom
6	74	184	South Africa
7	44	255	South Africa
8	38	268	South Africa
9	27	326	South Africa
10	2	N/A	South Africa
11	2	N/A	South Africa

Source: Adapted from Willis Towers Watson, 2019, *The world's largest 500 asset managers – Thinking ahead institute & pensions & investments joint research*, viewed 27 June 2020, from https://www.thinkingaheadinstitute.org/en/Library/Public/Research-and-Ideas/2019/10/P_I_500_2019_Questionnaire

AUM, assets under management.

†, Relative size globally based on total AUM. A ranking of 1 indicates the largest manager in the world as per Willis Towers Watson (2019).

The participants were involved in actively managed, long-only equity funds. Several interviewees worked at some of the largest funds in the United States of America, Europe, the United Kingdom and South Africa. Interviews were also conducted with representatives of two relatively small South African funds (with AUM of less than R50bn). Such funds typically have less resources and experience unique challenges in comparison to their large counterparts.

The open-ended interview guide allowed the investigation of the following core themes as identified in the literature: describing ESG integration processes, approaches and barriers; determining material ESG factors; describing ESG integration best practices; discussing ownership of non-ESG shares; and describing valuation adjustments based on ESG factors. In some instances, interviewees were requested to clarify their responses. Some interviewees were also requested to elaborate on specific comments. Open-ended questions enabled participants to effectively communicate their lived experiences.

The interviews were conducted via MS Teams and Zoom. With the consent of the interviewees, all interviews were recorded. The interviews ranged between 30 and 60 min. Responses were thematically coded by conducting open and focused coding. No computer software was used to conduct the thematic analysis. In line with Thornberg and Charmaz (2014), the researchers were mindful that coding is not a linear process and acknowledged that it is possible to move between the two phases in an iterative process. Common responses were identified whereafter they were allocated to specific themes. The identified themes were then refined.

Based on the guidelines offered by Lincoln and Guba (1985), trustworthiness was enhanced by utilising an interview guide to ensure similarity and consistency across interviews. Pertaining to confirmability, the interviewer notes and recordings were revisited to ensure that the derived themes are based on the participants' views. The dependability criterion was met, as future scholars can apply the outlined approach to conduct a similar study. In terms of transferability, ample details are provided on the research context to enable reflection on the applicability of the findings in other contexts. Data extracts are also provided in the next section, and secondary sources were used to triangulate the reported findings.

Ethical considerations

Ethical clearance to conduct this study was obtained from the Stellenbosch University Social, Behavioural and Education Research (SBER).

Results and discussion

The questionnaire results are presented first, followed by the semi-structured interview findings. Then, the framework that was derived based on the literature review and empirical results are presented.

Questionnaire results

Less than half of the respondents represented institutions that were PRI signatories at the stage when the interviews were conducted. Three quarters of the respondents had formal RI policies but only approximately 53% indicated that their policies were publicly available. Category 4 respondents were more likely to have ESG policies in place and make them publicly available than category 1 respondents. This outcome might highlight the role of formal policies in driving ESG investment practices. Those respondents that had official RI policies were asked which approach(es) was(were) stated in their policies by selecting all applicable options as discussed in the section 'Quantitative data collection and analysis'. Their responses are indicated in Table 4, based on the percentage of respondents that selected each option. Note that respondents could have selected more than one option.

The respondents seemed to favour ESG integration (68.42% of the 38 respondents selected this option), engagement (65.79%) and voting (63.16%) as shown in the last column of Table 4. Cowell and Rajan (2020) also distributed a questionnaire among institutional and hedge fund managers and found that early adopters of RI often implement exclusion and ESG integration approaches. The low usage of exclusion among this study's respondents (15.79%) might be partly ascribed to the limited size of the locally listed equity market and the constrained opportunity set that make exclusion a less feasible strategy (Viviers & Smit 2015).

Research furthermore shows that early adopters of RI have a greater likelihood of outperformance (Rathner 2013; Revelli & Viviani 2015). Most respondents (68%) had a positive view on the influence of ESG integration on risk-adjusted returns. However, they disagreed whether this outcome could be ascribed to a reduction in overall risk or the contribution to long-term performance.

More than 90% of the respondents indicated that over the period 01 July 2017 – 30 June 2020, they have reduced or sold share positions based on ESG risks. However, less than 40% used ESG information to identify opportunities to buy or increase their positions. Category 4 respondents focused on the longer-term return benefits of ESG integration. They seemed to recognise the value of ESG information by highlighting investment opportunities. Details of responses on the relevance of investor abilities or characteristics to enhance ESG integration are provided in Table 5.

Most of the respondents focused on the provision of concrete examples relating to ESG (4.11) and important ESG factors (4.08), as shown in Table 5. These results highlight the importance of clarity on materiality pertaining to ESG information, as well as the availability of relevant data to inform investment decision-making. Category 4 respondents focused on identifying key ESG factors, while category 1 respondents highlighted the key role of availability of ESG data or research.

In line with Van Duuren et al. (2016), most respondents furthermore preferred bottom-up, company-level ESG analysis above sector- and country-level analysis. The preferred bottom-up approach has implications for the ability of analysts to find relevant raw data about actual and potential investee companies, and whether they decide to use 'pre-packaged insights' in the form of ESG ratings from third-party data providers, and/or ESG-related indices.

TABLE 4: Approaches to environmental, social and governance investing.

Approach	Category 1 (%)	Category 2 (%)	Category 3 (%)	Category 4 (%)	Overall (%)
Exclusion	14.29	0.00	18.18	21.43	15.79
Norms-based	0.00	16.67	18.18	7.14	10.53
Best-in-class	0.00	16.67	27.27	14.29	15.79
Thematic investing	0.00	16.67	9.09	21.43	13.16
Impact investing	0.00	16.67	18.18	7.14	10.53
Engagement	42.86	50.00	63.64	85.71	65.79
Voting	42.86	50.00	63.64	78.57	63.16
ESG integration	14.29	66.67	72.73	92.86	68.42

ESG, environmental, social and governance.

TABLE 5: Relevance of investor abilities or characteristics to environmental, social and governance integration.

Category	Describe ESG tactics and/or instructions	List important ESG factors	Availability of ESG data and/or research	Money spent on ESG	Provide concrete examples	Presence of ESG expertise (specialised staff; training)
1	3.57	3.57	4.00	2.43	3.86	3.57
2	3.33	4.33	4.33	2.33	4.50	2.67
3	3.91	4.09	3.73	2.09	4.00	3.36
4	3.79	4.21	4.14	2.50	4.14	3.36
Overall	3.71**	4.08**	4.03**	2.34**	4.11**	3.29

ESG, environmental, social and governance.
*, Significant at the 5% level.
**, Significant at the 1% level.

TABLE 6: Relevance of environmental, social and governance information sources.

Category	Raw data	Sustainability ratings	Annual reports	Sustainability reports	Integrated reports	Third-party data providers	Sustainability indices
1	2.43	2.71	4.14	3.86	3.86	4.00	2.14
2	3.17	2.67	4.83	3.83	4.67	2.83	2.17
3	3.18	3.00	4.64	4.09	4.80	3.64	1.73
4	3.85	3.14	4.93	4.71	4.79	3.79	2.00
Overall	3.27	2.95	4.68**	4.24**	4.59**	3.63**	1.97**

*, Significant at the 5% level.
**, Significant at the 1% level.

TABLE 7: Relevance of environmental, social and governance considerations in the investment process.

Category	Idea generation	Research and analysis	Portfolio construction	Risk monitoring	Active ownership
1	2.71	4.14	3.71	4.43	3.86
2	2.50	3.83	3.67	4.17	3.33
3	2.70	4.60	3.50	4.10	4.20
4	2.93	4.57	4.29	4.29	4.71
Overall	2.76	4.38**	3.86**	4.24**	4.19**

*, Significant at the 5% level.
**, Significant at the 1% level.

In terms of sources of ESG information, the respondents favoured annual and integrated reports, as shown in Table 6. Sustainability ratings and indices were the least used sources. Among the four derived categories, category 4 respondents had the highest preference for reports, be it annual reports, sustainability reports or integrated reports. These results highlight the considerable role that corporate reporting plays in ESG integration.

Respondents indicated that qualitative data were mainly used during the portfolio construction process in terms of position sizing. They were also asked to rate on a scale of 1–5 how relevant they deem ESG considerations when generating ideas, conducting analysis, constructing a portfolio, monitoring risk, and as part of active ownership (see Table 7).

The respondents deemed ESG considerations most relevant when conducting research and analysis, as well as part of risk monitoring. While categories 3 and 4 respondents placed focus on research and analysis, categories 1 and 2 respondents emphasised risk monitoring. Respondents across all four categories regarded ESG considerations as least relevant during the idea generation phase. These results could also be linked to the relatively small size of the South African listed equities opportunity set (Viviers & Smit 2015). As most investment teams are arguably familiar with locally listed companies, idea generation seems to play a less important role in their overall investment process.

In addition, approximately 82% of the respondents used red flagging, thereby monitoring and excluding shares that were related to serious ESG controversies and/or issues. Category 1 respondents were the most likely to use ESG considerations to specify and/or limit their investment universe, while those included in category 4 were the least likely to limit their investment universe based on ESG considerations. These results can be indicative of different levels of sophistication among respondents in terms of ESG integration.

Respondents were furthermore asked how their valuations were adjusted based on ESG information. Most of them indicated that discount rates (74%) and capital requirements (53%) were adjusted based on ESG information. Orsagh et al. (2019) also noted that the discount rate is adjusted when there is considerable uncertainty regarding the impact of ESG risks. The reported results might suggest uncertainty among some local asset managers in terms of which value drivers should be adjusted based on material ESG information. The respondents might also have to refine their processes to integrate granular ESG information and the effect thereof on relevant margins and capital requirements.

Thematic analysis discussion

Semi-structured interviews were conducted with selected global and local asset managers to gauge their views on RI and specifically ESG integration. The global interviewees indicated that they have applied various RI approaches identified in the literature, including negative and best-in-class screening, thematic investing, impact investing and ESG integration (Cappucci 2018; Eccles & Viviers 2011; Van Duuren et al. 2016). They ascribed the variation in their RI preferences to progress being made on their respective RI journeys, client demands becoming more sophisticated and a large opportunity set.

Based on a global survey on how and why investors use ESG information, Amel-Zadeh and Serafeim (2018) confirmed that client demand and product strategy are key considerations. The local participants explained that their opportunity set is limited compared to those of their global peers. As such, the local asset manager interviewees mainly focused on ESG integration.

A local interviewee explained that divestment does 'not necessarily solve anything as someone else might end up with these stocks and buy them at very favourable valuations, thereby generating potentially high returns'. Other local asset manager interviewees added that if multiple investors decide to divest, share prices will fall and the cost of capital will rise. This situation hence creates a conundrum for asset managers: who will be the first to divest?

In line with Viviers and Mans-Kemp (2021), the local interviewees indicated that they prefer to engage privately with investee companies on pressing ESG matters. Four themes related to ESG integration were derived based on the thematic analysis, namely, views on ESG integration approaches, barriers to ESG integration, valuation adjustments in response to identifiable ESG risks and views on mainstreaming ESG integration.

Views on environmental, social and governance integration approaches

When describing their respective approaches to ESG integration, the global asset managers indicated that they have incorporated ESG considerations across the entire investment process, from idea generation, conducting research and valuations, to risk management, and ultimately portfolio construction. Most of the local asset managers followed a similar approach but some of them indicated that it is 'not really part of idea generation' and 'it's a small universe so most companies are known'. There is hence substantial scope for local asset managers to identify prominent ESG themes, such as climate change and water scarcity, and search for potential investee companies with business models that are aligned to the identified themes.

Several local asset managers pointed to the importance of engagement on ESG matters by stating that 'the more detail and knowledge you have in terms of ESG information the better and more robust these engagements can be', 'where there are obvious problems engagement changes' and 'our knowledge is not currently enough in terms of E & S to engage effectively'. Cowell and Rajan (2020) likewise emphasised the value of engagement in gaining informational advantages. They explained that engagement can be used to identify companies on a 'virtuous trajectory' that unlocks opportunities to create excess returns as investee companies improve their sustainability performance (Cowell & Rajan 2020:48).

During discussions on topics that should be covered as part of ESG integration, both local and global interviewees indicated that they mostly determine materiality in a proprietary manner. The global asset managers had sophisticated in-house systems, while the local asset managers indicated that they prefer to engage with specialist consultancies. Reference was also made to the development of in-house proprietary ESG scores. The interviewees explained that portfolio managers can then use these scores, in conjunction with their ESG valuations, to determine the probability of certain outcomes or position sizing.

Some of the global asset managers furthermore used recognised frameworks as input to their in-house systems to guide their ESG integration decision-making, such as the TCFD. Although some of their local counterparts mentioned that they were aware of these frameworks, they were not actively using them to determine ESG materiality. O'Dwyer and Unerman (2020) highlighted the potential of such frameworks to considerably transform corporate reporting in future. They hence stated that more research should be conducted on the implications of TCFD reporting for investors.

Barriers to environmental, social and governance integration

The local and global interviewees deemed the lack of standardised definitions and frameworks a considerable barrier to ESG integration. Other barriers included obtaining sufficient resources, buy-in from internal and external parties, client demand and human talent to research complex ESG issues. Client demand for ESG-aligned strategies was particularly relevant for local asset managers. They pointed out that most retail clients in South Africa are still predominantly concerned with shorter-term investment returns. International research mirrors this tendency (Schoenmaker & Schramade 2019).

While the international managers mentioned concerns related to the lack of history, comparability and overall quality of ESG data, the South African asset managers did not view these aspects as major issues. Most local asset manager interviewees remarked that they can find sufficient data in annual reports, integrated reports, sustainability reports and from external parties. Local and global interviewees were of the view that access to and quality of ESG data are rapidly improving.

It might be to the advantage of local investors that most companies listed on the Johannesburg Stock Exchange (JSE) are already in the habit of publishing integrated reports and other reports that integrate ESG factors with investors as the target audience (Mans-Kemp & Van der Lugt 2020). If more South African investors would embrace RI in future and demand greater consideration of ESG factors, the same 'pull factor' to incorporate more ESG considerations in mainstream investment practices can be expected in South Africa, as mentioned by the global asset managers.

The local asset managers furthermore indicated scope for improvement in reporting on proxy voting, company engagement and transparency regarding ESG investment practices. While corporate culture was listed as a major barrier to ESG integration by Orsagh et al. (2019), a local interviewee stated that ESG is mostly driven in their team from the bottom-up by young analysts.

Valuation adjustments in response to identifiable environmental, social and governance risks

The local and international interviewees agreed that ESG and financial information should be considered conjunctively instead of separately when making investment decisions. They also concurred that ESG integration mostly focuses on returns and valuation. Yet the valuation process includes a broader information set (Cappucci 2018). The discount rate, and in particular the cost of capital measures, should capture business and financial risks (Hillier et al. 2017). In contrast to the reported questionnaire results the interviewees indicated that discount rates were rarely adjusted to reflect higher ESG risk. The participants mentioned adjustments to earnings, cashflows, capital expenditure requirements and exit multiples.

A local interviewee cautioned that portfolio managers might be 'tempted' to just focus on valuation if it is a mere qualitative conversation. However, if ESG is 'baked into the valuation', portfolio managers are less likely to challenge it. Local counterparts made several references to discussions between analysts and portfolio managers based on ESG considerations, thereby confirming the importance of regular engagements on ESG risks.

Views on mainstreaming environmental, social and governance integration

According to Eccles et al. (2017) and Cowell and Rajan (2020), an ESG integration best-practice framework should incorporate leadership and corporate culture considerations. While the international interviewees agreed with these scholars, the local asset managers placed limited focus on corporate culture. The international asset managers explained that the focus on ESG integration, and by implication RI, is 'driven from the top'. Some referred to explicit goals to have 100% ESG integration in their investment processes in the foreseeable future.

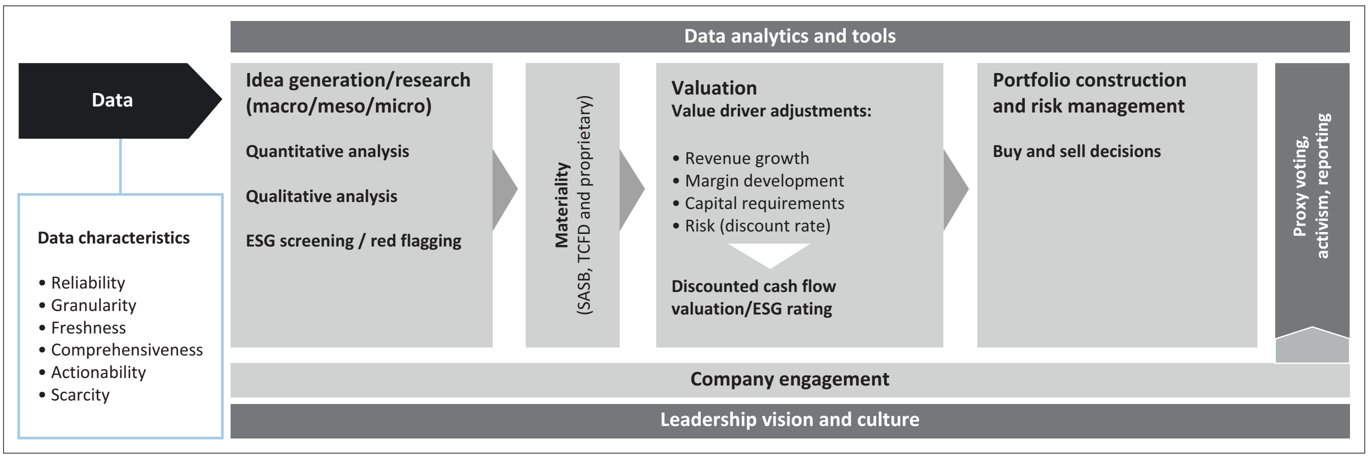
Eccles et al. (2017) suggested that ESG mainstreaming efforts should include providing training to investment professionals and expanding the time frame of performance measurement. Senior management should furthermore explicitly support ESG mainstreaming, and there should be continuous efforts to improve ESG standards and reporting. The international investors likewise indicated that they had plans in place to ensure that all investment strategies across their respective investee companies incorporate ESG considerations. Cowell and Rajan (2020) confirmed that in addition to enhancing transparency and reporting on engagements and the related outcomes, focus is increasingly placed on bringing about positive changes in investee companies.

The interviewees focused on forward-looking best practices to enhance the mainstreaming of ESG integration. They emphasised that asset managers should be more intentional in doing good. In line with Amel-Zadeh and Serafeim (2018), the interviewees believed that asset managers should move away from merely avoiding poorly managed companies to focusing on bringing about more positive changes in investee companies. A participant postulated that ESG integration will then become 'normalised' in future.

Deriving a best-practice framework for environmental, social and governance integration

Based on the reported questionnaire results and interview findings, as well as guidance published by PRI (2016), Schramade (2016), Eccles et al. (2017), In et al. (2019) and Orsagh et al. (2019), a best-practice framework for ESG integration in investment management has been derived (see Figure 1). In line with Orsagh et al. (2019), Cowell and Rajan (2020) and several of this study's participants, the authors stress the importance of accounting for material ESG data and acknowledging barriers to ESG integration.

The proposed best-practice framework follows the logical flow of an investment management process from macro- and company-level research to portfolio construction and risk



Source: Adaped from the reported findings, Principles for Responsible Investment (PRI), 2016, *A practical guide to ESG integration for equity investing*, viewed 02 May 2020, from https://www.unpri.org/listed-equity/a-practical-guide-to-esgintegration-for-equity-investing/10.article; Schramade, W., 2016, 'Integrating ESG into valuation models and investment decisions: The value-driver adjustment approach decisions', *Journal of Sustainable Finance and Investment* 6(2), 95–11. https://doi.org/10.1080/20430795.2016.1176425; Eccles, R.G., Kastrapeli, M.D. & Potter, S.J., 2017, 'How to integrate ESG into investment decisionmaking: Results of a global questionnaire of institutional investors', *Journal of Applied Corporate Finance* 29(4), 125–133. https://doi.org/10.1111/jacf.12267, In, S.Y., Rook, D. & Monk, A., 2019, 'Integrating alternative data (also known as ESG Data) in investment decision making', *Global Economic Review* 48(3), 237–260. https://doi.org/10.1080/1226508X.2019.1643059 and Orsagh, M., Allen, J., Sloggett, J., Bartholdy, S., Georgieva, A., Dehman, N.A. et al., 2019, 'ESG integration in Europe, the Middle East, and Africa: Markets, practices, and data', in *UN PRI*, viewed 04 May 2020, from https://www.unpri.org/investor-tools/esg-integration-in-europe-the-middle-eastand-africa-markets-practices-and-data-/4190.article

ECG, environmental, social and governance; SASB, Sustainability Accounting Standards Board; TCFD, Task Force on Climate-Related Financial Disclosures.

FIGURE 1: Proposed best-practice framework for environmental, social and governance integration.

analytics and eventual reporting and ongoing engagement. Starting with market, industry and company analyses, the framework recognises the importance of having reliable and comparable ESG data. Such data may be externally sourced from providers of ESG data, ratings and rankings, and further refined internally. The application of such data at investee company level requires clarity on materiality within the industry-specific context.

The framework also recognises the importance of new approaches to materiality and enterprise value creation, where there is clear opportunity for local asset managers to reference internationally recognised, standard guidance from the IASB, the International Sustainability Standards Board (ISSB), IIRC, SASB, TCFD and GRI. Integrated reporting by JSE-listed companies provides them with more comprehensive descriptions of value creation that incorporate ESG considerations. Advanced ESG disclosure and integrated reporting by local investee companies have enabled them to secure positive managerial and economic consequences (Barth et al. 2017).

The proposed framework recognises that investment teams may regularly adjust their valuations. Some teams might prefer to capture the risk related to an expected return (based on valuation) by means of ESG scores. These scores can be used in the valuation process to adjust expected growth and discount rates for revenues, earnings and cash flows, and to assess implications for capital expenditure, assets and liabilities before making buy or sell decisions and determining position sizing.

Ongoing engagement with investee companies can further refine the interpretation of quantitative information. Engagement is therefore an ongoing process and should not merely be conducted in response to shareholder voting. Pro-active discussions with investee companies' managers and directors can be used to better measure their management of material ESG topics. The developed framework hence highlights the importance of engagement and proxy voting as part of ESG integration. The framework also recognises the important role that leaders play in setting a clear vision and developing an organisational culture centred on sustainable investment practices.

Industry research points towards the mainstreaming of ESG integration internationally (Eurosif 2018; GSIA 2021). The findings of this study revealed increased focus on intentional ESG changes, instead of adopting a mere risk-based view. The proposed framework can assist local asset managers to achieve greater ESG integration throughout their investment strategies, thereby contributing to mainstreaming ESG integration in future.

Conclusion and recommendations

While the EMH provides a useful theory of how share prices are formed, behavioural finance literature offers insight into why this process might not always function efficiently. Behavioural finance scholars hence encourage profit-seeking investors to obtain more forward-looking information to better understand human behaviour, and related market developments, to generate superior risk-adjusted returns. Given significant idiosyncratic barriers like a limited opportunity set and historically low client demand for RI, several South African asset managers have not consistently incorporated material, forward-looking ESG information.

As the local equity market is arguably not efficient, opportunities to obtain excess return may arise for asset managers who include ESG information in their investment processes. They hence require formalised ESG guidance and policies. A mixed-methods approach was adopted to explore the mainstreaming of ESG integration in investment practices. A questionnaire was administered among a sample of local asset managers and semi-structured interviews were conducted with selected global and local asset managers. A best-practice framework for ESG integration covering research, valuation, portfolio construction, risk management and active engagement was developed based on the reported results and literature review.

Although most respondents had formalised RI policies, only about half of them made these policies publicly available. The questionnaire results furthermore showed that the respondents focused on ESG integration, engagement and voting. They mainly used integrated reports to source material ESG information. The respondents typically incorporated ESG considerations as part of risk monitoring, and discount rates were adjusted based on their analyses.

The interview findings highlight the importance of having access to material ESG data. Some of the global participants developed proprietary in-house systems to incorporate vast amounts of data. As integrated reporting quality and the provision of robust ESG data improve, local investment teams can improve their analytics to better connect material ESG issues with enterprise value drivers. Local investment managers are hence encouraged to invest in the development of internal systems to broaden their access to detailed ESG information. The participants confirmed that engagement and active ownership should be part of ongoing ESG integration. Coordinated engagement efforts and transparent reporting thereon should hence receive more attention. Investment management teams are furthermore encouraged to launch more alternative investment products.

Although several local asset managers seemed to be aware of ESG considerations, their ESG integration approaches were less sophisticated compared to techniques mentioned by the global asset manager interviewees. The need for enhanced ESG integration and formalised policies is thus indisputable. Asset managers should caution against short-termism and behavioural biases related to the small local opportunity set. As changes in human behaviour require effective change management programmes, it is suggested that incumbent investment team members should undergo ESG training. Fund management leaders should also set compelling ESG vision statements and formalise ESG policy guidance to drive change from the top.

The proposed framework visually portrays that ESG integration should form part of the entire investment process. To effectively apply the framework, investment managers in South Africa need to formalise and publish comprehensive RI policies, develop internal systems of ESG data provision related to key material subjects as defined by international ESG disclosure standards and conduct ongoing engagement with investee companies. They should also introduce ESG training for analysts to ensure proper understanding of different ESG subjects while accounting for industry context. A supportive organisational culture should be ensured with top management setting the tone in support of mainstreaming ESG integration.

While the authors of this study focused on how ESG is integrated into long-only fundamental equity strategies, future researchers can explore how ESG issues are incorporated into fixed income and hedge-fund strategies. The degree to which asset managers integrate ESG information in their investment decision-making warrants further investigation. Interviews can be conducted with leaders of institutional investors in various emerging and developed markets to reflect on their understanding and incorporation of ESG matters. Their views on the applicability of the proposed framework can assist scholars to further refine the framework.

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Competing interests

The authors have declared that no competing interest exists.

Authors' contributions

F.M. and C.T.v.d.L. conceptualised the article. F.M. collected and analysed the data. F.M., C.T.v.d.L. and N.M.-K. wrote and finalised the manuscript.

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Data availability

The raw data used in this study cannot be made available because of ethical restrictions.

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