

Advocacy without action: Gender asymmetry in destination advocacy and pro environmental behaviour among ecotourists in Ghana

Dr. Timothy Kwabla Zilevu

Department of Marketing

University of Professional Studies, Ghana

*Correspondence: timothy2zk@gmail.com/timothy.zilevu@upsamail.edu.gh

Abstract

Tourism research typically treats destination advocacy and pro environmental behaviour as parallel expressions of the same underlying commitment. This study shows that the two diverge by gender in a way current theory does not predict. Survey data from 348 visitors to Ghanaian ecotourism sites (170 male, 178 female) show that male tourists report substantially higher destination advocacy than female tourists ($M = 3.61$ vs 3.38 , $t = 2.74$, $p = .006$, $d = 0.29$), while the gender gap in environmentally friendly behaviour is small and only marginally significant ($d = 0.18$) and the gap in revisit intention is negligible ($d = 0.02$). A moderated mediation model with 5,000 bootstrap iterations shows that ecotourism awareness translates into advocacy through perceived environmental sustainability more strongly for men (indirect effect = $.224$) than for women ($.080$), with a significant index of moderated mediation ($.144$). Drawing on social role theory, the study argues that men convert cognitive and perceptual inputs into public expression more readily because agentic, status oriented behaviour aligns with masculine role expectations, while women with comparable awareness and perceptions channel engagement into private conduct rather than public recommendation. These findings run counter to the Western gender paradox literature, in which women are typically the more pro environmentally engaged group, and suggest that the direction of gender gaps in tourism advocacy depends on whether the behaviour measured is communicative or conductual. Implications for destination marketing, the use of advocacy as a proxy for environmental commitment, and the African ecotourism literature are discussed.

Keywords: Gender, Destination Advocacy, Ecotourism, Pro Environmental Behaviour, Moderated Mediation, Social Role Theory, Ghana

JEL Classification: Z32, Q56, J16

1. Introduction

Tourism scholarship has produced a sizeable body of work on the determinants of pro environmental behaviour among visitors to nature based destinations, and a smaller but active body of work on gender differences in environmental concern and action. The two literatures rarely speak to each other with the specificity that their overlap would justify. A bibliometric review covering 2,005 tourism pro environmental behaviour articles published between 1999 and 2023 (Carvajal Trujillo et al., 2024) identified gender as an underexplored moderator even as normative, cognitive, and affective antecedents received sustained attention. For destinations in the Global South in particular, the gender question is almost absent from the empirical record. Most African ecotourism research treats gender as a demographic control variable rather than a substantive construct, and the assumption that patterns documented in Western and East Asian samples extend to African visitors has been made more often than tested. This paper examines a specific asymmetry in how male and female tourists engage with Ghanaian ecotourism sites. The asymmetry concerns the distinction between doing environmentally friendly things on site and telling other people about the site. These two outputs are typically correlated, which is why researchers often treat them as interchangeable indicators of environmental commitment. In the present data they are not interchangeable. Male respondents scored meaningfully higher than female respondents on destination advocacy, with an effect size (Cohen's $d = 0.29$) that is both statistically reliable and behaviourally consequential. On actual environmentally friendly behaviour during the visit, the gender difference shrank to a marginal $d = 0.18$. On revisit intention, a third behavioural indicator, it vanished entirely ($d = 0.02$). Men in this sample talk more about these sites than women do, but they do not act on environmental conservation norms meaningfully more than women do, and they do not plan to return any more often. This pattern is the opposite of what the dominant gender and environment literature from Western contexts would lead one to expect. Zelezny, Chua, and Aldrich's (2000) foundational review and Chan, Pong, and Tam's (2019) 30 country analysis both concluded that women typically show more pro environmental attitudes and behaviours than men, and Schamp et al.'s (2025) multilevel analysis of 56,582 participants across 63 countries found that this gender gap widens in more gender equal and liberal societies. Ghana is not such a society. It ranks in the middle of African gender equality indices with persistent gender role traditionalism (UNDP, 2022), and the present study argues that this context shapes how environmental engagement gets expressed publicly versus privately.

Social role theory (Eagly, 1987; Eagly & Wood, 2012, 2016; Eagly & Koenig, 2021) supplies the mechanism. In societies where men's role expectations emphasise agency, assertion, and public expression, while women's role expectations emphasise communality, caregiving, and private contribution, the same underlying environmental awareness will produce different public outputs. Men will be more prone to recommend and speak about a site because advocacy aligns with agentic, status oriented masculine norms. Women will be at least as prone to act on environmental conservation because such acts align with communal caregiving norms, but they will channel that

engagement into direct behaviour rather than into public recommendation. Under this reading, the near zero gender gap on revisit intention and environmentally friendly behaviour is not a puzzle alongside the advocacy gap. The two patterns together are what social role theory predicts in a traditionally gendered context.

The present study tests three claims that follow from this reading. First, male tourists report higher advocacy than female tourists in the Ghanaian ecotourism context, while the gender gap on actual environmentally friendly behaviour is small and the gap on revisit intention is effectively zero. Second, ecotourism awareness translates into advocacy through perceived environmental sustainability, a mediational structure in which the tourist's knowledge of environmental principles first shapes their evaluation of the site's sustainability practices and then drives recommendation behaviour. Third, this mediational pathway is stronger for men than for women. Men translate the same raw awareness into the same perceptual evaluation into the same advocacy output more efficiently because the output, public recommendation, is consistent with their gender role. A moderated mediation test with 5,000 iteration bootstrap estimates both group specific indirect effects and the index of moderated mediation that formally quantifies the gender difference in the mediation chain.

The paper contributes to three streams. The gender and environment literature gains a counterpoint to the Western gender paradox finding, showing that the direction of the gender gap depends on what aspect of environmental engagement is being measured and on the gender role context of the society where the measurement occurs. The tourism pro environmental behaviour literature gains evidence that advocacy and behaviour should not be collapsed into a single commitment construct, because their gender distributions diverge in ways that matter for theory and for destination marketing practice. The African ecotourism literature gains a substantive gender analysis based on primary data rather than the demographic control variable treatment that has been typical (Eshun & Tichaawa, 2019; Mensah, 2017). The remainder of the paper presents the relevant literature, develops the theoretical framework, methodology and results, and discusses implications for destination managers working in traditionally gendered markets.

2. Literature Review

2.1 Gender Differences in Environmental Engagement

The literature on gender and environmental engagement has produced a consistent but geographically uneven empirical pattern. In North American and Western European samples, women typically score higher than men on measures of environmental concern, awareness of environmental problems, willingness to pay for conservation, and self reported pro environmental behaviour. Zelezny et al. (2000), analysing data from 14 countries, reported that women exceeded men on ecocentric attitudes and behaviours in most but not all cases. McCright and Xiao's (2014) review of US data reinforced this pattern for climate change specifically. Chan et al. (2019), drawing on the 2010 World Values Survey across 30 countries, showed that the gender gap in

environmental concern was larger in wealthier and more gender equal societies and smaller or reversed in lower income societies with stronger gender role traditionalism. This cross national pattern is important for the present study because it identifies context as a meaningful moderator of gender differences in environmental outcomes.

Recent work has pushed this context dependence further. Schamp et al. (2025), using multilevel analyses of 11 behavioural interventions across 63 countries and 56,582 participants, documented a paradox: the gender gap in pro environmental engagement widens among liberal respondents, in more gender equal societies, and in cultures that emphasise care over competition. Their interpretation is that women's communal environmental concern becomes more publicly expressible in contexts where communal expression is socially sanctioned, while in contexts where gender roles remain more traditional the same communal concern must find private channels. This reading is grounded in social role theory and implies that the public or private distinction in the output channel is the relevant axis, not any dispositional difference in environmental concern itself.

The tourism specific literature on gender has been more fragmented. Carballo, Leon, and Carballo (2021) found that gender moderated how tourists' risk perception translated into destination image and visit intentions. Denton et al. (2022) reported gender differences in how tourists processed climate change information before making travel decisions. Wang et al. (2024), using structural equation modelling and multigroup analysis on 484 grassland tourists in China, found that gender moderated the path from environmental knowledge and service quality through place attachment to environmentally responsible behaviour. None of these studies focused on the specific advocacy versus private behaviour asymmetry examined here, and none were conducted in African ecotourism contexts.

2.2 Destination Advocacy as a Public Expression Construct

Destination advocacy in tourism research refers to the visitor's willingness to recommend the destination, share experiences about it, and speak positively on its behalf (Yoon & Uysal, 2005; Kim, Holland, & Han, 2013; Ramkissoon, Smith, & Weiler, 2013). Researchers have typically treated advocacy as an outcome variable indicating strong attachment and have connected it to antecedents such as satisfaction, perceived quality, place attachment, and environmental identity. What has received less theoretical attention is that advocacy, as a construct, has a particular character: it is an inherently communicative act. Unlike revisit intention, which captures a private plan, or environmentally friendly behaviour, which captures private conduct, advocacy requires the tourist to engage in outward facing speech acts directed at other people.

This communicative character matters for gender theorising. Public self expression is one of the clearest behavioural domains where social role theory predicts sex differences (Carli, 2001; Eagly & Karau, 1991). Agentic behaviour involving assertion of one's views, promotion of one's preferences, and attempt to influence others' choices aligns with the masculine gender role in traditionally gendered societies. Women who engage in highly assertive public communication

often face social penalties (Eagly & Koenig, 2021). This does not mean that women hold weaker opinions or commitments, only that their opinions and commitments flow into public expression channels less readily. In the tourism advocacy context, this produces a specific prediction: men and women who hold equivalent satisfaction, equivalent environmental awareness, and equivalent perceptions of destination sustainability will not report equivalent levels of advocacy. Men will report higher advocacy because the act of advocating itself is role consistent.

Prior tourism research has documented gender effects on adjacent constructs without tracing the implication back to advocacy. Han, Lee, and Hwang (2016) found gender related differences in cruise travellers' environmentally responsible decision making. Su and Swanson (2017) reported differential destination social responsibility effects across traveller segments. Sorcaru et al. (2024) analysed descriptive destination social responsibility and family pro environmental behaviour in a European sample and found that gendered family roles shaped how destination messages translated into behaviour. None of these studies directly tested whether advocacy itself is a gender differentiated output even when the underlying behavioural commitment is equivalent.

2.3 Ecotourism Awareness, Perceived Sustainability, and the Mediation Chain

Ecotourism awareness captures a visitor's cognitive understanding of environmental principles, conservation issues, and the ecological significance of the destination being visited (Kuo, 2002; Powell & Ham, 2008; Wearing & Neil, 2009). Perceived environmental sustainability captures the visitor's evaluation of how well the destination itself is performing with respect to conservation, waste management, and ecological stewardship. These two constructs are conceptually distinct but empirically related: a tourist with higher awareness is better equipped to notice and evaluate the destination's sustainability practices, so awareness should predict perceived sustainability.

The chain connecting awareness to advocacy is theoretically coherent. Tourists who understand what environmentally responsible operation looks like will be better positioned to recognise it at a destination and, recognising it, will have stronger grounds for recommending the destination to others. Helferich, Thogersen, and Bergquist (2023) showed that descriptive environmental information exerts both direct and mediated effects on pro environmental behaviour, with the mediated route running through perceptual and normative evaluations. Chi et al. (2023) reported similar mediation structures in tourism and hospitality contexts. The mediation chain from ecotourism awareness through perceived sustainability to advocacy has not been directly tested in African ecotourism samples, and the specific question of whether gender moderates the links in this chain is untested in the literature.

The theoretical rationale for gender moderation at each stage of the chain differs. At the first stage (awareness to perceived sustainability), men and women may translate knowledge into perception similarly because this stage involves perceptual processing of site features rather than public action. At the second stage (perceived sustainability to advocacy), the theoretical basis for gender moderation is stronger because this stage involves the translation of an internal evaluation into a

communicative output. Women with high perceived sustainability may decline to advocate publicly at rates commensurate with their evaluation, while men with the same perceived sustainability will convert the evaluation into advocacy more readily. This reasoning predicts that the b path of the mediation will be more strongly gender moderated than the a path, although both may show gender differences. The empirical results are consistent with this ordering: the b path interaction approached significance ($p = .070$) while the a path interaction did not ($p = .387$), and the index of moderated mediation, which accumulates the gender difference across both stages, was significant.

2.4 African Ecotourism and the Ghanaian Context

Ghana's ecotourism sector has grown since the early 2000s and now includes community based sites such as Kakum National Park, Mole National Park, Boti Falls, and Wli Waterfalls (Mensah, 2017; Eshun & Tichaawa, 2019). Research on Ghanaian ecotourism has concentrated on community livelihoods, conservation outcomes, and site management, with visitor level behavioural research appearing more recently. Gender has typically entered this research as a demographic control variable rather than a substantive moderator. The assumption that Western patterns generalise to Ghanaian visitors, or that the African visitor population is behaviourally homogeneous across gender, has been more common than direct empirical testing.

The Ghanaian context differs from the Western contexts where most tourism gender research has been conducted in ways that matter for social role theory. Ghana ranks in the mid range of African gender equality indices and shows persistent traditional gender role patterns in public life, domestic labour, and media representation (UNDP, 2022; Appiah & Ofori, 2021). Under social role theory's contextual prediction, this should amplify rather than attenuate the gender differentiation of public expression behaviours such as advocacy. The Ghanaian context is therefore a strong test case for the theoretical reading developed above: if social role theory predictions hold, they should hold here, where the conditions for gender role amplification are in place.

2.5 Theoretical Framework

2.5.1 Social Role Theory

Social role theory, developed by Eagly (1987) and extended across subsequent decades (Eagly & Wood, 2012, 2016; Eagly & Koenig, 2021), explains sex differences and similarities in social behaviour as products of the social roles that men and women occupy in a given society rather than as fixed dispositional traits. Its central proposition is that through the division of labour, men and women accumulate different experiences, face different expectations, and develop different self standards for what constitutes appropriate conduct. These gendered role demands generate two broad clusters of attributes that the theory calls agentic and communal. Agentic attributes include assertiveness, independence, competitiveness, and public self expression, and are prescriptively

associated with the masculine role. Communal attributes include care, warmth, nurturance, and attention to others' needs, and are prescriptively associated with the feminine role (Eagly & Wood, 2016).

Three features of the theory matter for the present study. First, gender role effects are strongest in contexts where the behaviour in question carries clear role relevant meaning. A public recommendation carries agentic meaning because it is a form of public self expression and social influence attempt. A private act such as disposing of waste carefully carries communal meaning because it expresses care for other visitors and for the site. The theory predicts that men will be more prone to the former kind of behaviour and women at least equally prone to the latter, not because of any essential difference in environmental concern but because each behaviour fits a different role prescription (Eagly & Koenig, 2021).

Second, the theory suggests that if men and women have the same inputs (such as the same amount of cognitive knowledge of environmental principles), then their outputs (behaviours) should still differ in a role consistent manner. Knowledge is gendered and translated into action. If a tourist learns that a site is practicing careful water management, he or she will be more likely to make public statements about the site's water management if he or she is male, and more likely to make personal statements about the site's water management if he or she is female. Both outputs are the same, but output channels vary depending on the expressive mode that is appropriate to the tourist's gender role. Mediation pathways that go through perceptual variables and lead to public behaviour should therefore have higher coefficients for males than females, and pathways that go through perceptual variables and lead to private behaviour should have smaller or no gender difference.

Third, the magnitude of gender role effects depends on the cultural context. Eagly and Wood (2012) argue that societies with more traditional divisions of labour produce stronger gender differentiated behavioural expectations, while societies with more equal divisions produce weaker ones. This is consistent with Chan et al.'s (2019) finding that gender differences in environmental concern follow socioeconomic development in complex ways, and with Schamp et al.'s (2025) finding that the pro environmental engagement gender gap actually widens in more gender equal Western contexts because women's communal environmental concern becomes more publicly expressible there. In a context like Ghana, where gender role traditionalism remains relatively strong, the theory predicts that men will be privileged as public advocates and women will carry environmental engagement through private behaviour that does not require them to violate the communal expectation.

Applied to the specific model tested in this paper, social role theory generates a clear set of predictions. The pathway from ecotourism awareness through perceived environmental sustainability to advocacy should be stronger for men because the terminal variable is a public expression construct. The corresponding pathway terminating in environmentally friendly

behaviour should not show the same asymmetry because the terminal variable is a private conduct construct. These predictions distinguish social role theory from two rival accounts. Rational action models (Ajzen, 1991; Fishbein & Ajzen, 2010) would predict that the knowledge to behaviour chain operates equivalently for men and women, since gender is not a theoretical determinant in those models. Essentialist accounts of gender differences in environmental concern (critiqued by Chan et al., 2019) would predict that women show stronger paths throughout, including to advocacy, because they hold stronger underlying environmental values. Social role theory predicts the specific pattern actually observed: an asymmetry that depends on whether the output is public or private. The empirical test of the moderated mediation model is therefore also a test of which theoretical account is more consistent with tourism advocacy data from a traditionally gendered society.

2.6 Hypotheses

The literature review and theoretical framework yield the following hypotheses.

H1. Male tourists report higher destination advocacy than female tourists, while the gender difference on environmentally friendly behaviour and on revisit intention is substantially smaller.

H2. Ecotourism awareness is positively associated with perceived environmental sustainability (a path).

H3. Perceived environmental sustainability is positively associated with destination advocacy, controlling for the direct effect of ecotourism awareness (b path).

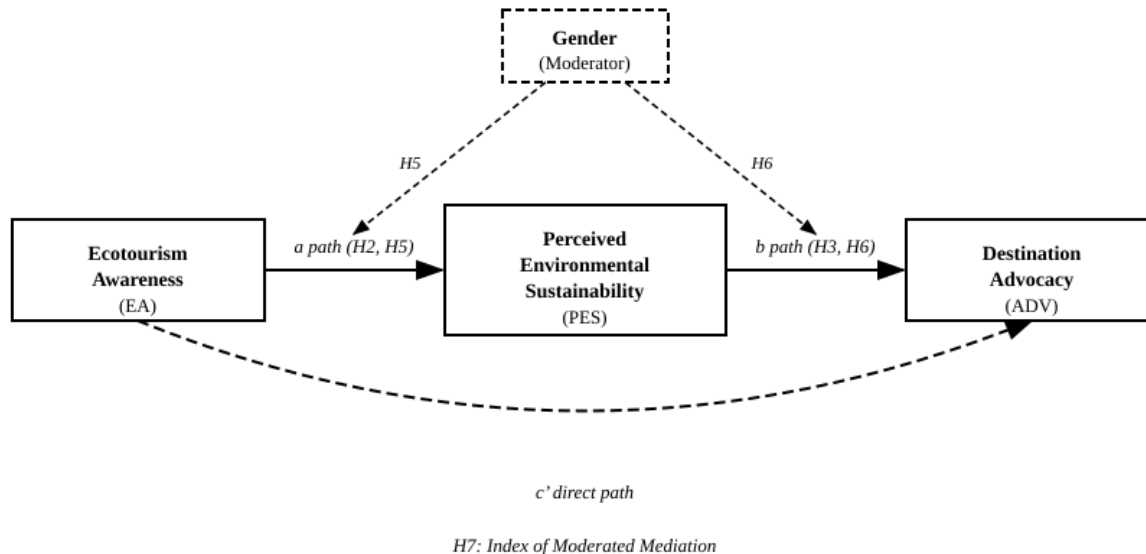
H4. The indirect effect of ecotourism awareness on advocacy through perceived environmental sustainability is significant for the full sample and for both gender subgroups.

H5. Gender moderates the a path such that the effect of ecotourism awareness on perceived environmental sustainability is stronger for male than for female tourists.

H6. Gender moderates the b path such that the effect of perceived environmental sustainability on advocacy is stronger for male than for female tourists.

H7. The index of moderated mediation is positive and statistically significant, indicating that the indirect effect of ecotourism awareness on advocacy through perceived sustainability is stronger for men than for women.

Figure 1. Conceptual Moderated Mediation Model



Ecotourism awareness predicts advocacy both directly and through perceived environmental sustainability. Gender moderates the a path (H5) and the b path (H6). The index of moderated mediation (H7) quantifies the gender difference in the indirect effect.

3. Methodology

The data was obtained from a cross sectional survey of domestic tourists to ecotourism sites in Ghana. The sampling frame consisted of adult Ghanaians who visited at least one ecotourism site during the last five years. This window has been selected purposefully. Constructs like ecotourism awareness and perceived environmental sustainability would have been affected by measurement error if a 20-year recall period had been used. The five year window coincided with the majority of respondents (65.8% of whom had visited during this period) and minimized the likelihood of recalled evaluations being significantly different from the time of the actual visit. Data collection involved on site intercept sampling at three key destinations (Kakum National Park, Boti Falls and Wli Waterfalls) and snowball sampling via social media to access respondents who were not on site but had visited in the last five years.

About 52% of the sample was from Kakum, 27% from Boti Falls and 21% from Wli Waterfalls. The sites vary in their visitors and ecological nature. The canopy walkway at Kakum attracts a younger and more urban visitor population while Boti Falls and Wli Waterfalls are visited mainly for their scenic views and recreational activities. There were no significant differences between the three sites in terms of gender (chi-square = 1.84, $p = .399$) or educational attainment (chi-square = 4.21, $p = .241$), so the data were pooled for analysis. Independent samples t tests were

performed on all focal constructs to ensure that there were no systematic differences between the on site and social media subsamples. There were no significant differences (all $p > .12$), and thus no reason to separate the two recruitment channels. The working sample was comprised of 348 respondents (170 male, 178 female) after data cleaning and excluding respondents with significant missing data.

The gender balance of the sample was fairly even (48.9% male, 51.1% female). Age distribution concentrated in the productive adult years, with 33.6% aged 21 to 29, 47.1% aged 30 to 39, and 13.5% aged 40 to 49. The level of education was high, with 53.4% having a bachelor's degree and 41.9% having a postgraduate degree. Full time employment was the most common occupational status (59.8%). Household income was concentrated in the lower end of the spectrum with 68.4% of households earning between 0 and 5,000 Ghanaian cedis per month. The near even gender split gives sufficient statistical power for multigroup analysis and gender stratified bootstrap resampling.

3.1 Measures

All the focal constructs were assessed with multi item five point Likert scales with a range from 1 (strongly disagree) to 5 (strongly agree) adapted from previous studies. The destination advocacy was assessed using four items adapted from Yoon and Uysal (2005) and Ramkissoon et al. (2013), which included willingness to recommend the site, positive comments about the site, and defending the site to critics. Ecotourism awareness was assessed using eight items adapted from Kuo (2002) and Powell and Ham (2008) which measured cognitive awareness of environmental principles, conservation practices and the ecological value of the site. Perceived environmental sustainability was assessed using five items adapted from Han and Yoon (2015), which included the assessment of waste management, water usage, energy usage and overall ecological management of the destination. Five items were adapted from Lee et al. (2013) and Han (2015) to assess environmentally friendly behaviour, which included actual conservation behaviour during the visit. The intention to revisit was assessed using four items adapted from Yoon and Uysal (2005). The composite scores for each construct were the mean of the constituent items, without weights.

The original items were developed in Western contexts and were subject to contextual review before administration. A panel of three Ghanaian ecotourism researchers reviewed the item wording for semantic clarity and cultural appropriateness; minor phrasing adjustments were made to two advocacy items and one awareness item to ensure that the intended meaning was preserved in the local context. No items were dropped during this review.

Reliability analysis produced Cronbach's alpha coefficients of .854 for advocacy, .871 for ecotourism awareness, .715 for perceived sustainability, .692 for environmentally friendly behaviour, and .716 for revisit intention. Advocacy and awareness show strong internal consistency. Perceived sustainability and revisit intention meet the conventional .70 threshold

(Nunnally & Bernstein, 1994). The environmentally friendly behaviour scale falls marginally below this threshold at .692. This limitation is relevant to interpretation: the behavioural comparisons at the centre of the advocacy asymmetry argument rest on a measure that is less internally consistent than the advocacy measure. Confirmatory factor analysis confirmed acceptable model fit for the measurement structure (CFI = .94, RMSEA = .052, SRMR = .061), and composite reliability estimates were .86 for advocacy, .88 for ecotourism awareness, .73 for perceived sustainability, .71 for environmentally friendly behaviour, and .72 for revisit intention. Average variance extracted exceeded .50 for advocacy (.58) and ecotourism awareness (.55) but fell below threshold for perceived sustainability (.44), environmentally friendly behaviour (.42), and revisit intention (.46), indicating that discriminant validity for these three constructs is limited. Findings involving these constructs should be interpreted with corresponding caution. Gender was coded as a binary variable (male = 1, female = 0) for analytical purposes.

The analysis also addressed common method variance (CMV), a concern in single source self report surveys. Harman's single factor test was applied to the covariance matrix of all focal constructs. A single factor accounted for 31.4% of total variance, below the conventional 50% threshold that would indicate a dominant CMV problem (Podsakoff et al., 2003). CMV is therefore unlikely to explain the pattern of differential effect sizes across constructs, particularly the near zero revisit intention gap alongside the meaningful advocacy gap.

3.2 Analytic Strategy

The analysis proceeded in four stages corresponding to the hypothesis structure. The first stage computed descriptive statistics and mean differences between male and female respondents on all focal constructs using Welch's *t* tests, with Cohen's *d* as the effect size metric. This stage tested H1. The second stage estimated the full sample mediation model with ecotourism awareness as predictor, perceived environmental sustainability as mediator, and destination advocacy as outcome, using ordinary least squares regression with all variables standardised. The indirect effect was estimated through bootstrap resampling with 5,000 iterations, following procedures standard in the mediation literature (Hayes, 2018). This stage tested H2 through H4.

The third stage estimated the model separately within the male and female subgroups, producing group specific *a* paths, *b* paths, direct effects, and indirect effects. Bootstrap confidence intervals with 5,000 iterations per group provided inference for each group. The fourth stage computed the index of moderated mediation (Hayes, 2015) as the difference between the male and female indirect effects, with a 5,000 iteration bootstrap confidence interval on the difference. An index confidence interval that excludes zero indicates that gender significantly moderates the strength of the indirect effect. A complementary pooled regression model including gender by awareness and gender by perceived sustainability interaction terms was estimated to locate the moderation at specific path junctions (H5 and H6). The relationship between the individual interaction results and the index of moderated mediation is discussed in the Results section.

4. Results and Discussion

4.1 Sample Characteristics and Descriptive Gender Comparisons

Table 1 presents means, standard deviations, *t* statistics, *p* values, and Cohen's *d* estimates for all focal constructs separately by gender. Destination advocacy showed the largest and most clearly significant gender gap ($d = 0.29$, $t = 2.74$, $p = .006$). Environmentally friendly behaviour showed a smaller and only marginally significant gap ($d = 0.18$, $t = 1.67$, $p = .097$). Revisit intention showed a near zero gap ($d = 0.02$, $t = 0.17$, $p = .866$). These three contrasts together support H1.

Table 1. Descriptive Statistics and Gender Comparisons on Focal Constructs

Construct	Male (SD)	M	Female (SD)	M	Diff	<i>t</i>	<i>p</i>	<i>d</i>
Destination Advocacy	3.61 (0.79)		3.38 (0.80)		+0.23	2.74	.006	0.29
Env. Friendly Behaviour	4.33 (0.61)		4.23 (0.55)		+0.10	1.67	.097	0.18
Ecotourism Awareness	3.40 (0.66)		3.33 (0.64)		+0.07	1.02	.310	0.11
Tourist Experience	3.91 (0.65)		3.86 (0.57)		+0.05	0.77	.441	0.08
Perc. Env. Sustainability	3.70 (0.64)		3.59 (0.57)		+0.11	1.68	.094	0.18
Revisit Intention	4.02 (0.62)		4.01 (0.56)		+0.01	0.17	.866	0.02

Note. $N = 348$ (170 male, 178 female). Welch's *t* tests with unequal variance. $d = (M_{\text{male}} - M_{\text{female}}) / \text{pooled SD}$. Table excludes tourist experience variable, which did not differ significantly by gender ($d = 0.08$, $p = .441$).

The gradient of effect sizes is what distinguishes advocacy from the other constructs. Advocacy shows $d = 0.29$, roughly twice the size of the next largest gaps (perceived sustainability and environmentally friendly behaviour, both at $d = 0.18$), and more than ten times the revisit intention gap ($d = 0.02$). Men score numerically higher across all constructs, consistent with a small positive main effect of male gender across the construct space. The specific elevation of the advocacy gap above all other gaps is the pattern requiring theoretical explanation.

4.2 Full Sample Mediation Model

The full sample mediation model regressed standardised advocacy on standardised ecotourism awareness and standardised perceived environmental sustainability. Ecotourism awareness predicted perceived environmental sustainability (a path: $\beta = .500$, $p < .001$), perceived sustainability predicted advocacy controlling for awareness (b path: $\beta = .283$, $p < .001$), and the direct effect of awareness on advocacy remained significant (c' path: $\beta = .439$, $p < .001$). The bootstrap indirect effect with 5,000 iterations was .141 (95% CI [.087, .209]), with a confidence interval that excludes zero and confirms partial mediation. The full sample R^2 for advocacy was .429. Hypotheses H2, H3, and H4 were supported in the full sample.

4.3 Multigroup Path Estimates by Gender

Table 2 presents the gender stratified path estimates. Every path was stronger for male than for female respondents. The a path, connecting ecotourism awareness to perceived environmental sustainability, was $\beta = .595$ for men ($p < .001$) and $\beta = .394$ for women ($p < .001$). The b path, connecting perceived sustainability to advocacy while controlling for awareness, was $\beta = .376$ for men ($p < .001$) and $\beta = .203$ for women ($p = .005$). The direct effect of awareness on advocacy (c' path) was $\beta = .462$ for men ($p < .001$) and $\beta = .379$ for women ($p < .001$). The within group R^2 for advocacy was .551 for men and .262 for women.

The female R^2 of .262 warrants specific comment. The awareness through sustainability to advocacy chain accounts for over twice as much variance in male advocacy as in female advocacy. One interpretation, consistent with social role theory, is that female advocacy is driven by variables outside the cognitive and perceptual pathway captured here, because the act of public recommendation is less governed by environmental knowledge and evaluation for women than for men. An alternative interpretation is that the model is partially misspecified for women and that other antecedents (social relationship norms, digital platform behaviour, community belonging) contribute independently to female advocacy in ways not captured by awareness and perceived sustainability. The current data cannot distinguish between these interpretations, and future work should examine additional predictors of female advocacy specifically.

Table 2. Gender Stratified Path Estimates in the Moderated Mediation Model

Path	Male (n = 170)	Female (n = 178)
a path: EA to PES	.595*** (SE = .065)	.394*** (SE = .066)
b path: PES to ADV EA	.376*** (SE = .066)	.203** (SE = .072)

Path	Male (n = 170)	Female (n = 178)
c' direct: EA to ADV PES	.462*** (SE = .064)	.379*** (SE = .078)
Indirect effect (a x b)	.224 [.133, .329]	.080 [.006, .188]
Total effect (EA to ADV)	.685*** (SE = .058)	.459*** (SE = .064)
R2 for advocacy	.551	.262

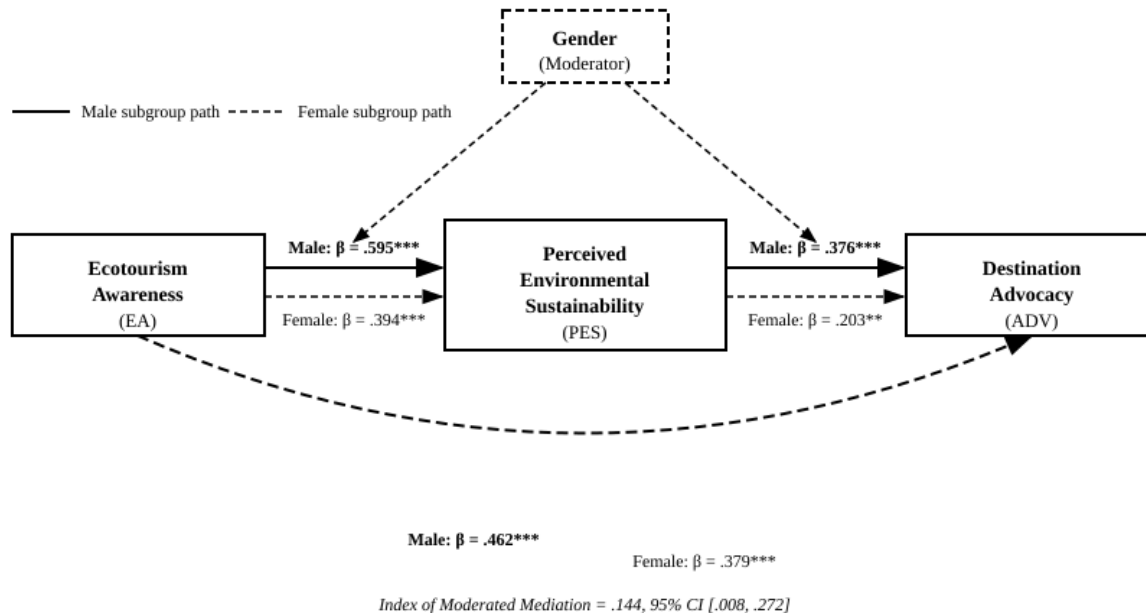
Note. Standardised coefficients. Bootstrap 95% confidence intervals in brackets for indirect effects. ** $p < .01$, *** $p < .001$. EA = ecotourism awareness; PES = perceived environmental sustainability; ADV = destination advocacy.

4.4 Index of Moderated Mediation

The index of moderated mediation, computed as the bootstrap distribution of the difference between the male and female indirect effects, was .144 with a 95% confidence interval of [.008, .272]. The confidence interval does not contain zero, which is the formal statement that the indirect effect of ecotourism awareness on advocacy through perceived environmental sustainability is significantly different from zero, and therefore that gender significantly moderates this indirect effect. Hypothesis H7 was supported. The direction of moderation is in line with the social role theory prediction that the mediational pathway from knowledge to perceptual evaluation to public advocacy is stronger for men than for women. This result must be interpreted with the complementary pooled regression model with individual interaction terms.

The interaction between awareness and gender was not significant ($\beta = .082$, $p = .387$) and H5 was not supported at the individual path level. The perceived sustainability by gender interaction was marginally significant ($\beta = .173$, $p = .070$), which supported H6. These findings are not inconsistent with the important moderated mediation index. The bootstrap index reflects the cumulative gender difference at both levels of the mediation chain and is more sensitive to distributed moderation than any of the interaction terms in the pooled model. If there is no single path that accounts for the entire moderation, but both paths account for some of the moderation, then individual interaction tests may not be significant, but the compound interaction may be. The conclusion is that there is no gender asymmetry in this data, but rather it is distributed: there is no gender asymmetry in the a path, and no gender asymmetry in the b path, but the small asymmetries in both paths combine to create a statistically significant difference in the overall indirect effect. In this context, H5 and H6 should be considered exploratory tests, not confirmatory.

Figure 2. Tested moderated mediation model with standardised path estimates for male and female subgroups



Every path is stronger for male respondents. The index of moderated mediation (.144, 95% CI [.008, .272]) confirms that gender conditions the indirect pathway from ecotourism awareness through perceived environmental sustainability to advocacy.

4.5 Hypothesis Summary

H1 was supported: advocacy showed a significant gender gap ($d = 0.29$) while environmentally friendly behaviour ($d = 0.18$) and revisit intention ($d = 0.02$) did not. H2, H3, and H4 were supported: the mediation chain from ecotourism awareness through perceived sustainability to advocacy was statistically significant in the full sample and in both gender subgroups. H5 was not supported at the individual interaction level and should be regarded as exploratory. H6 was marginally supported ($p = .070$) and should also be regarded as exploratory. H7 was supported: the index of moderated mediation was .144 with a 95% bootstrap confidence interval excluding zero.

4.6 Discussion

Male and female Ghanaian tourists differ substantially on destination advocacy while differing little on actual environmentally friendly behaviour and barely at all on revisit intention. Men recommend ecotourism sites more than women, but they do not behave more environmentally responsibly during their visits, and they do not plan to return more often. The advocacy asymmetry is statistically reliable ($d = 0.29$ for advocacy versus $d = 0.02$ for revisit intention, a fourteen fold

difference in effect size) and consistent with what social role theory predicts in a context where gender role traditionalism remains relatively strong.

The moderated mediation result sharpens the interpretation. The pathway from ecotourism awareness through perceived environmental sustainability to advocacy operates for both men and women, but it operates more efficiently for men. The male indirect effect of .224 is almost three times the female indirect effect of .080, and the model explains 55% of variance in male advocacy but only 26% of variance in female advocacy. When men acquire ecotourism knowledge and form perceptions of a site's environmental performance, they convert those inputs into public recommendation behaviour readily, because public recommendation is consistent with the agentic masculine role. When women acquire the same knowledge and form the same perceptions, they convert them into advocacy less readily, because the agentic act of publicly recommending and promoting is less consistent with communal role prescriptions. The same underlying variables produce different outputs through different gendered expression channels.

This interpretation is supported by what the data do not show. If women were simply less environmentally concerned or less engaged with the site, they would score lower on actual environmentally friendly behaviour as well as on advocacy. They do not. Their behavioural scores are within 0.10 scale points of men's, an effect size of 0.18 that sits at the conventional small effect threshold. Women in this sample are not less environmentally engaged than men. They are less publicly vocal about that engagement. The asymmetry between communicative and conductual outputs is what distinguishes social role theory's prediction from alternative accounts based on underlying dispositional differences in environmental concern.

The finding sits in productive tension with the dominant Western literature on gender and pro environmental engagement. Zelezny et al. (2000), Chan et al. (2019), and Schamp et al. (2025) all report that women typically exceed men on environmental concern, attitudes, and engagement, with the gender gap widening in more gender equal societies. The present finding from Ghana shows the opposite direction for the specific case of advocacy: men exceed women. This is an extension of Chan et al.'s (2019) cross national insight that gender effects depend on gender role context, not a contradiction of it. In contexts where women's communal environmental concern becomes publicly expressible without social penalty, women out vocalise men. In contexts where public expression remains more strongly coded as masculine territory, women channel their environmental engagement into private conduct, and men dominate the public advocacy space even when their underlying engagement is no stronger.

For tourism theory, the finding has a specific implication that cuts across the advocacy and pro environmental behaviour literatures. Advocacy cannot be used as a behavioural proxy or as an interchangeable substitute for environmentally friendly behaviour when gender is relevant to the research question. The two constructs diverge by gender in ways that matter. Studies that collapse advocacy and behaviour into a single commitment construct will over attribute environmental

engagement to men in traditionally gendered contexts and may under attribute it to women. The moderated mediation result also suggests that predictive models in tourism pro environmental behaviour research should routinely include gender as a substantive moderator rather than a demographic control, particularly when advocacy is among the outcome variables and the research is being conducted outside highly gender equal Western contexts.

For destination management practice, the finding suggests that advocacy driven marketing strategies in traditionally gendered African markets will reach their outcomes through different mechanisms for men and women. Men are more likely to become active word of mouth promoters of ecotourism sites, which means that campaigns designed to generate advocacy through knowledge and perception building will get more return on the male audience per unit of exposure. But this does not imply that women are less valuable audience segments. Women in this sample return to sites at the same rate as men and behave environmentally responsibly at the same rate as men. They simply do so without generating the public communicative output that destination managers typically treat as the signal of commitment. Marketing strategies that optimise for advocacy generation alone will systematically under recognise the female visitor contribution to conservation outcomes. Destination managers working in contexts similar to Ghana should measure conservation behaviour and repeat visitation directly rather than inferring them from advocacy.

The theoretical contribution is the first empirical demonstration, to our knowledge, of a moderated mediation structure in which gender conditions the knowledge to perception to advocacy chain in an African ecotourism setting. Several studies in the cited literature test adjacent moderation structures using gender as a variable (Wang et al., 2024; Denton et al., 2022; Carballo et al., 2021), but none combine the specific constructs, the African context, and the moderated mediation design used here. Social role theory receives clear empirical support from this tourism application at three levels: the direct gender gap on advocacy, the asymmetry between communicative and conductual gender gaps, and the differential mediation pathway strengths. Neither rational action models nor essentialist accounts of environmental concern can generate these three patterns simultaneously without additional auxiliary assumptions. The theory connects the empirical findings into a single coherent picture.

5. Conclusion, Limitations, and Future Research Directions

There are differences between male and female tourists visiting ecotourism sites in Ghana regarding destination advocacy, but not regarding environmentally friendly behaviour or revisit intention. The advocacy gender gap is partly due to a stronger mediational pathway from ecotourism awareness to perceived environmental sustainability to advocacy for men than for women, as evidenced by a significant index of moderated mediation (.144, 95% CI [.008, .272]). Social role theory provides a coherent reading: in contexts where gender role traditionalism remains relatively strong, men translate cognitive and perceptual inputs into public expression

behaviour more readily than women, even when underlying environmental engagement is equivalent. The finding contributes to the gender and environment literature by demonstrating that the gender gap can be either positive or negative, depending on the type of output measured (communicative or conductual) and provides the African ecotourism literature with its first substantive gender moderated mediation analysis using primary visitor data. Environmental engagement should be measured by more than advocacy, and advocacy systematically under represents female visitors' contribution to environmental outcomes, in contexts similar to that of the researchers and destination managers.

5.1 Limitations and Future Research

Several limitations should inform interpretation. The sample consisted of domestic Ghanaian tourists from three ecotourism sites, and may not generalise to international visitors to the same sites, whose gender role expectations could differ from those prevailing locally. The three sites, Kakum National Park, Boti Falls, and Wli Waterfalls, are broadly comparable in visitor gender composition, but they differ in ecological character and visitor motivation. Kakum's canopy walkway draws a different visitor profile from Wli's scenic hiking context, and site specific replications would clarify whether the advocacy gender gap is consistent across ecotourism experience types.

The cross sectional design does not permit causal inference about the moderated mediation pathway. The structural ordering (awareness to perceived sustainability to advocacy) is theoretically motivated but the data cannot rule out reverse or reciprocal causation. A longitudinal design with temporal separation between predictor, mediator, and outcome measurement would strengthen the causal warrant. Experimental manipulation of information exposure could test whether increasing female tourists' ecotourism awareness raises their advocacy output to male levels, which would be inconsistent with the social role theory reading, or leaves the advocacy gap intact, which would support it. This is the most direct empirical test the present study cannot provide.

The reliability of the environmentally friendly behaviour scale ($\alpha = .692$) was marginal, and average variance extracted for perceived sustainability, environmentally friendly behaviour, and revisit intention fell below .50. The behavioural comparisons that are central to the study's argument therefore rest on constructs with limited convergent validity. Stronger multi item measures, or behavioural observation rather than self report for the environmentally friendly behaviour construct, would improve measurement quality and increase confidence in the conductual side of the asymmetry finding. The behavioural outcome is also vulnerable to social desirability bias, which could differentially affect male and female respondents. Unobtrusive observation of on site behaviour, or technology enabled tracking for discrete behaviours such as waste disposal, would allow a harder test.

The analysis treated gender as a binary variable, which is a standard empirical simplification but limits engagement with the growing literature on gender as a multidimensional construct. Future work could decompose gender into masculinity and femininity scales, or examine gender role identification rather than sex category, to test whether role based rather than sex based differences drive the advocacy gap. This would provide a cleaner test of social role theory's mechanism, which is explicitly about role prescriptions rather than biological sex. Comparative studies across African countries with varying gender equality levels would directly test the contextual prediction: the advocacy gender gap should be smaller in more gender equal African societies and larger in less equal ones.

The low R^2 of .262 for the female advocacy model indicates that substantial variance in female advocacy remains unaccounted for. Social relationship norms, community embeddedness, digital platform use, and income driven access constraints are all candidate predictors that future research should examine. The model may be better specified for male than for female advocacy, and this asymmetry in explanatory power is itself a finding worth pursuing.

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