

ORIGINAL RESEARCH ARTICLE

From Novice Sprint All the Way up to Ironman! Exploring the Progression of Recreation Specialisation for Amateur Ironman Triathlon Finishers

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Abstract

This research provides an in-depth interpretation of how amateur Ironman triathlon finishers develop their skills and commitment to the sport. A qualitative approach was adopted to collect data from 25 amateur Ironman triathlon finishers through a two-step process—individual in-depth interviews followed by a focus group interview—and the resulting data were analysed to synthesise key themes. The analysis revealed that progression along the recreational specialisation continuum involves three areas encompassing eight themes. The first area, facilitators, underscores the influence of personal motivation and social support in sustaining participation. The second area, specialisation development, reflects growth in knowledge, behaviour, and affective engagement with the sport. The third area, changes after progression, highlights personal insights, evolving event preferences, and shifts in social or individual roles. Based on these findings, this research enhances the application of serious leisure theory and recreational specialisation literature, particularly in the context of Ironman triathlon participants. It also lays the groundwork for future large-scale model development and identifies two promising research directions: strategies for mental adjustment to overcome obstacles and approaches to maintaining a sense of balance in life. Overall, the findings offer a concise theoretical basis and practical guidance for fostering sustained participation in recreational triathlon.

Keywords:

endurance leisure sport, leisure-time physical activity, recreational endurance sport, recreational triathletes, serious leisure

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Introduction

When participating in recreational activities, the types of activities participants engage in differ over time (Backlund & Kuentzel, 2013). Some may choose to participate less or no longer participate in the activity, while others may choose to maintain the status quo and continue participating regularly (Rundio & Buning, 2021). Among these participants who might pour in all efforts as if pursuing a career,

might have entered the ‘progression’ of recreation specialisation.

Recreation specialisation is a concept proposed by Bryan in 1977. It is defined as “the progression of recreationists’ behaviour from normal or low involvement to specialised or high involvement, and the behaviours are reflected through their equipment, techniques, environment (activity setting), and preferences. Moreover, participation behaviour is a continuum” (Bryan, 1977, p. 175). Based

on Bryan's definition, "progression" is a critical element in the recreational specialisation concept. Oh et al. (2010) defined progression as a process in which participants show higher involvement, accumulate more knowledge and skills, and demonstrate higher commitment to the activity over time. Moreover, there exists an ultimate goal during progression. During progression, the elite or the privileged can emerge in a certain social world with sharing and support; more specifically, progressing along the recreational specialisation continuum signifies a deepening of the cognitive, behavioural, and affective domains (Kim et al, 2023; Lee & Scott, 2013; Scott & Shafer, 2001; Shafer & Scott, 2013).

Also, it is essential to note that specialisation is not only a progression of skills and commitment but also a process of identity transformation (Jun et al., 2015). As participants deepen their knowledge, behavioural engagement, and affective connection to an activity, these changing patterns become integrated into their self-concept, shaping how they define themselves within a social world. This perspective positions specialisation as both a behavioural and identity-based trajectory, thereby clarifying its relevance to understanding participants' long-term involvement.

However, not all recreational enthusiasts progress along the specialisation continuum over time. Unruh (1979) suggested that most recreationists do not progress along the recreational specialisation continuum; only very few would. Much like the normal curve in statistics, recreationists who progress along the recreational specialisation continuum are the constituent minorities at the extremities of the curve (Kuentzel & Heberlein, 2006; Liu & Lou, 2019; McFarlane, 1996).

For amateur Ironman triathletes, progress along the specialisation continuum over time is typical (McCarville, 2007). In triathlon racing rules, the total distance

increases from 25.75 km to 51.5 km, then to 113 km, and finally to 226 km, corresponding to the goals set for the sprint, the Olympic/standard, the half Ironman, and the Ironman (Sharma & Périard, 2020). Because triathletes must complete swimming, cycling, and running within time limits, the Ironman competition is an energy-intensive sport (Maxcy et al., 2019). For most amateur participants, a detailed training plan comprising continuous practice is needed to complete the race. These amateur ironmen need to use their time after work and during vacation, and even sacrifice family time, to train in swimming, cycling, and running, and to practice the transitions between events (Cohen, 2023). In addition to self-discipline and self-demand, determination and perseverance are indispensable (Andreasson & Johansson, 2019; Atkinson, 2008). McCarville (2007) believed that participants require technical training and high levels of involvement and commitment due to the long-distance (226 km) challenge; thus, the degree of recreation specialisation is high. Accordingly, those Ironman triathletes who invest deeply in preparatory practices—through persistent training, the acquisition of specialised knowledge and skills, and the refinement of performance-related equipment (Wicker et al., 2013)—demonstrate clear progression along the recreational specialisation continuum.

We based this study on previous studies for "the progression along the recreational specialization continuum" (Manning, 2011; Needham et al., 2013; Scott & Shafer, 2001) and other relevant literatures (Backlund & Kuentzel, 2013; Kuentzel & Heberlein, 2006; Oh et al., 2010) investigate the recreational specialization progression from the amateur Ironman triathlon finishers' points of view. In general, there is a lack of research on amateur Ironman triathlon finishers and their progression along the recreational specialisation continuum. Also, few studies examine the whole trajectory from novice

to Ironman within the recreational specialisation framework. Further investigation on this topic is needed. Therefore, the purpose of this research is to examine amateur triathletes' experiences (including facilitators, specialisation development, and changes) as they progress along the recreational specialisation continuum from novice to Ironman.

Literature Review

Facilitators of progression

Over time, recreationists can choose to get involved, maintain the status quo, or give up the activity (Backlund & Kuentzel, 2013). Only a small portion choose to progress along the recreational specialisation continuum (Kuentzel & Heberlein, 2006). Yet little is known about why amateur triathletes continue to challenge themselves after suffering from training and racing, or what key factors lead participants to decide to specialise.

Research shows that specialisation in serious leisure is not shaped by isolated factors but by the interaction of personal traits, skills, and social contexts. Personality characteristics such as persistence, self-challenge, and identification with the activity foster a willingness to learn and improve (Codina et al., 2017; Tsaur & Liang, 2008). While in activities such as birding or fishing, progression is often fueled by knowledge accumulation (species identification, gear use) and enjoyment of nature (Scott & Shafer, 2001; McFarlane, 1996), Ironman athletes must integrate perseverance, self-discipline, and time management at a scale rarely demanded in these other settings. Personality traits such as persistence and goal-setting drive participants to embrace discomfort and prolonged exertion, reflecting not only motivation but also lifestyle sacrifice. Unlike hiking or birding, where transferable skills (e.g., general outdoor familiarity) facilitate participation, Ironman specialisation relies on cross-disciplinary skill transfer across swimming, cycling, and running (Smith et al., 2022).

However, individual effort alone is insufficient. Social support—from family encouragement to peer networks and professional coaching—reinforces motivation and offers technical knowledge that individuals cannot acquire in isolation (Andreasson et al., 2018; Scott & Lee, 2010). In contrast to more solitary or casual forms of recreation, triathlon's extreme physical and logistical demands create a sharper dependency on social support. Taken together, these factors operate synergistically: personal desire fuels persistence, transferable skills enable progress, and social support sustains long-term commitment.

In summary, amateur Ironman specialisation develops through the combined influence of personal motivation, multifaceted skill acquisition, and sustained social reinforcement, distinguishing it from other recreational pursuits.

Specialisation development

Recreation specialisation can be classified into three main domains (Bricker & Kerstetter, 2000; De Salvo et al., 2020; Lee & Scott, 2004; McIntyre & Pigram, 1992): (A) The cognitive domain: evaluation of the participants' techniques, knowledge, and ability to perform a specific activity. Participants with high specialisation demonstrate better techniques, abilities, and knowledge than those with lower specialisation. (B) The behavioural domain: Participants' behaviour to participate or get involved, which includes participating experience, frequency, amount spent, and equipment investment. (C) The affective domain: Participants' level of involvement and commitment to the activity and the proportion of this activity in their daily lives. Participants with high specialisation are highly involved and committed to the activity and mentally devoted. However, the Ironman context magnifies these domains in ways that differ from those of other well-studied activities.

First, in the cognitive domain of recreation specialisation, amateur Ironman

participants build and apply knowledge to prepare effectively for races. In birding or fishing, cognitive specialisation often involves expanding taxonomic knowledge or environmental awareness (McIntyre & Pigram, 1992). By contrast, Ironman participants must acquire integrated, technical expertise across three sports, nutrition, and race logistics simultaneously (Kennelly et al., 2013; Caru et al., 2022). The necessity of mastering event transitions and race pacing highlights a multidimensional knowledge burden absent in single-discipline activities. Together, these forms of cognitive development illustrate how knowledge acquisition and application are inseparable in the specialisation process.

Next, in the behavioural domain of recreation specialisation, hiking and birding may require long-term engagement, but Ironman preparation involves structured, high-volume regimens that mimic professional training loads (Dupont et al., 2022). Preparing for a 226 km course often involves months of intensive training, with sessions increasing in both frequency and duration as competition nears (Kennelly et al., 2013). Many adopt professional-style regimens, including tailored race plans and coaching, while sacrificing rest, leisure, and family time to sustain progress (Spowart, 2024). Participation in races of varying distances and terrains (Myburgh & Kruger, 2022) further extends learning from experience, reinforcing skill development and resilience. Commitment is reinforced through substantial financial investments in equipment, coaching, and travel (Baird, 2019), a depth of resource allocation not typically paralleled in lower-cost leisure pursuits. Collectively, these behaviours—regular training, competition experience, and significant financial outlay—illustrate how specialisation is embedded not only in athletic practice but also in lifestyle and resource allocation.

Lastly, in the affective domain of recreation specialisation, endurance training and racing foster resilience by

normalising discomfort and challenge, which many participants come to value as part of the sport. Completing a race generates self-fulfilment and happiness (Maxcy et al., 2019), while regular exercise provides stress relief and opportunities for enjoyment beyond everyday routines (Lamont et al., 2019). Emotional attachment is common in most serious leisure contexts, yet Ironman athletes often describe triathlon as a “way of life” (Verchère, 2017). The normalisation of pain and fatigue as meaningful reinforces identity transformation to a greater extent than in less physically taxing pursuits such as fishing or hiking. Collectively, these affective outcomes illustrate how emotional engagement, lifestyle integration, and symbolic identification work together to deepen specialisation.

To summarise, cognitive, behavioural, and affective specialisation jointly shape the Ironman experience: cognitive demands involve mastering multidisciplinary knowledge; behavioural engagement reflects sustained, resource-intensive commitment; and affective attachment integrates endurance, meaning, and identity. Together, these domains illustrate how Ironman participation transcends ordinary recreation to become a holistic, lifestyle-defining pursuit.

Changes in recreation specialisation

Specialisation produces physical, social, and psychological benefits across many recreational activities, but Ironman racing uniquely amplifies these outcomes. For instance, while hiking or birding enhances health through moderate activity and nature contact (Oh et al., 2013), Ironman training requires sustained, high-intensity exercise that reshapes body composition, endurance capacity, and energy regulation (Lamont et al., 2019). Socially, both fishing communities and birding groups provide networks of belonging. Yet, Ironman athletes often describe near-exclusive immersion in triathlon culture, with friendships and routines revolving around

shared training and racing (Andreasson et al., 2018). Psychologically, perseverance and resilience are common outcomes across leisure contexts. Still, Ironman's extreme distances frame adversity as a central component of identity construction, producing stronger analogies between sport and life challenges (McCarville, 2007).

At the activity-choice level, while hikers or anglers often seek diverse environments, Ironman athletes show attachment to specific race organisers or routes for both symbolic and practical reasons (Aicher & Newland, 2018). This highlights how specialisation in Ironman is not only deeper but also more tightly bound to structured competitive environments.

Thus, while recreational specialisation theory has been widely applied to settings such as birding, hiking, and fishing, the Ironman triathlon presents a radically different test case. Its blend of extreme physical demand, cross-disciplinary knowledge, resource intensity, and lifestyle integration situates it at the far end of the specialisation continuum. This makes Ironman not just another example of serious leisure, but a distinctive context for refining and extending recreational specialisation theory.

In conclusion, Ironman specialisation exemplifies the most advanced form of serious leisure, integrating physical transformation, social immersion, and psychological growth within a highly structured and identity-defining environment. It expands traditional models of recreational specialisation by demonstrating how extreme endurance contexts intensify both personal and social dimensions of commitment.

Methods

Data collection and participants

The researchers investigate and describe the process of recreational specialisation among amateur triathletes. A qualitative study was adopted to emphasise the participants' subjective experiences and to illustrate the meaning of triathlon to them.

Qualitative studies are suitable for understanding participants' personal experiences and thoughts (Silverman, 2010). Also, Neuman (2000) noted that qualitative studies can yield enriched, detailed opinions or experiences. Hence, qualitative studies are appropriate for explaining a specific phenomenon, especially the situation of a selected candidate (Fangen & Nordli, 2005). The participants in this study are involved in a specific recreational activity, and their personal experiences and feelings are elucidated. Therefore, a qualitative study method can reflect our desire to understand the phenomenon of progression from novice to expert and the process of specialisation in recreation among triathletes who have completed an Ironman race (226 km). The phenomenon could offer insights that may be conceptually transferable to other contexts with similar conditions (Lincoln & Guba, 1985).

The researchers aim to understand the data in depth and in great detail, rather than focusing on generalisation and reproducibility, especially in the behavioural domains of the topic (Denzin & Lincoln, 2005; Neuman, 2000; Prior, 2018). Thus, the researchers integrated personal experiences (our researchers also participated in triathlons and completed multiple races) and drew on our understanding of the racing process, which was convenient for fieldwork. The researchers then reviewed the literature and connected it with other participants to start a conversation. Participation in triathlons facilitated recruitment, as the researchers' familiarity with the triathlon community and established networks enabled us to identify and approach suitable participants efficiently. This insider access also helped us build rapport and trust with participants, encouraging more open and detailed sharing of experiences. This study used purposive sampling to select participants. In purposive sampling, researchers select the most suitable participants for the study based on their backgrounds and knowledge.

This method provides abundant information, and the data obtained closely reflect the research focus (Parker et al., 2019; Patton, 2002). This study uses amateur triathletes who have completed an Ironman course as participants and investigates their process of recreation specialisation. We based our sampling method and recommendations on past literature (Simmons et al., 2016). The selection criteria were (a) non-professional athletes, (b) aged over 20 years, and (c) must have completed at least one Ironman race (226 km).

To gain an in-depth understanding of the progression of recreational specialisation, the researchers use qualitative methods that enable more personal interaction and the collection of detailed data from participants. Hence, a two-stage interview (an in-depth interview and a focus group interview) is used to collect the data. The researchers first conducted in-depth interviews to familiarise themselves with the interview process and steps, and to gather preliminary data for the focus group interview. Small focus groups were held to better understand participants' thoughts and achieve concept saturation (Wu et al., 2023), which assisted the researchers in identifying and extracting the main concepts and their connections. Focus group interviews spark new information from group interactions and can prompt more comprehensive and diverse ideas (Barbour, 2007; Prior, 2018).

In-depth interviews

Taking race (gender and age) into account, the researchers began by recruiting acquaintances among amateur athletes, and through snowball sampling, five participants (as indicated in Table 1) were recruited for in-depth interviews. Each interview lasted between 75 and 120 minutes.

Focus group interviews

This study aims to understand recreation specialisation among a specific group (amateur Ironman finishers); thus, we

adopted a single-category design, following Patton's (2002) recommendation. Participant recruitment was done through group recommendation or snowball sampling. Participants were referred or recruited through group recommendations from triathlon organisers (associations or companies), triathlon clubs, or social media groups (e.g., the Triathlon Notes Facebook group). Additionally, through the initial round of the in-depth interviews, additional participants were recruited for the next round, and recruitment continued through snowball sampling. Four rounds of focus group interviews were held, with 5 participants per round, for a total of 20 participants (see Table 2). Each round of focus group interviews lasted between 120 and 150 minutes. This study used a two-stage data collection approach. The frequency of new concepts emerging from the focus group meeting decreased by the third round, and repetition became apparent (Krueger, 2014; Lincoln & Guba, 1985). A new concept did not appear by the fourth round of the focus group meetings; hence, we confirmed that data collection was saturated.

Table 1. Profile of in-depth interview respondents

Code of interviewee	Gender	Age	Occupation	Marriage	Seniority	Number of races completed (Unit/times)		
						51.5	113	226
P-01-A	Male	50	Retiree	Married	5	45	21	15
P-02-B	Male	42	Researcher	Married	7	15	8	9
P-03-C	Female	39	Finance	Unmarried	7	3	2	3
P-04-D	Male	35	Self-employed	Unmarried	9	50	10	6
P-05-E	Female	33	Service Industry	Unmarried	6	1	4	5

Table 2. Profile of focus group interview respondents

Code of interviewee	Gender	Age	Occupation	Marriage	Seniority	Number of races completed (Unit/times)		
						51.5	113	226
G-01-A	Male	45	Technology	Married	9	7	2	3
G-01-B	Female	39	Teacher	Unmarried	16	20	2	1
G-01-C	Female	49	Insurance	Unmarried	10	6	10	7
G-01-D	Male	43	Chef	Married	5	10	4	1
G-01-E	Male	49	Finance	Married	5	5	4	1
G-02-A	Male	40	Doctor	Married	7	20	15	10
G-02-B	Male	50	Self-employed	Married	12	15	4	3
G-02-C	Male	51	Insurance	Married	12	6	5	7
G-02-D	Female	46	Lawyer	Married	9	10	4	1
G-02-E	Female	40	Self-employed	Unmarried	3	10	3	2
G-03-A	Female	32	Service	Married	7	5	2	1
G-03-B	Female	44	Teacher	Married	4	2	5	2
G-03-C	Male	57	Finance	Married	6	3	2	2
G-03-D	Male	32	Technology	Unmarried	8	2	2	1
G-03-E	Male	44	Technology	Unmarried	7	3	2	5
G-04-A	Female	31	Technology	Married	5	5	3	3
G-04-B	Male	41	Finance	Married	8	20	20	15
G-04-C	Male	40	Teacher	Married	7	49	4	2
G-04-D	Male	39	Civil servant	Unmarried	14	5	1	1
G-04-E	Male	42	Technology	Unmarried	13	5	3	2

Open-ended interview questions

This study used a two-stage interview process (in-depth and focus group interviews), both of which were semi-structured. Fielding and Thomas (2008) suggested that, in semi-structured interviews, the interviewer asks specific or main questions; however, the order of the questions can be at random. The interviewer can adjust the order based on the content and seek to explore further information through the topics covered. Bryman (2004) indicated that this type of interview emphasises the interaction between interviewer and interviewee: discussion is not limited, allowing critical issues relevant to the topic to emerge. Therefore, the design of the interview outline questions is based on the relevant literature on racing experience (Atkinson, 2008; McCarville, 2007) and the complete interview guide in the appendix.

Data analysis

Data collected from the in-depth and focus group interviews were systematically coded and analysed to generate meaningful insights. Informed by the literature review, sensitising concepts were adopted as an initial analytical lens to guide the interpretation of participants' narratives while remaining open to emergent meanings. Meanwhile, axial coding was employed to identify relationships among initial codes, grouping them into broader categories that captured underlying patterns within the data. Building upon these structured categories, thematic analysis was subsequently conducted to integrate the axial coding outcomes into overarching themes that represent the core findings of this study. This integrative analytic process strengthened the validity of the findings by ensuring that the derived themes were grounded in the data and theoretically well-founded.

(1) Sensitizing concept

Charmaz (2014) defined the sensitising concept as the examination, analysis, and consolidation of data from a commonly

accepted concept in a specific field (e.g., the leisure behaviour concept in this study, such as the facilitators of the development and changes in recreation specialisation). This idea provides a starting point for the research analysis rather than a conclusion.

(2) Axial coding

To identify the causal relationship, thread of thought, phenomenon, and results, axial coding was used to analyse the data (Silverman, 2010; Strauss, 1987). In this study, we followed our amateur Ironman finishers' specialisation process by coding data from facilitators, specialisation development, and changes over the course of progression.

(3) Thematic analysis

Thematic analysis uses repeated reading and examination of interview content to identify repetition, emphasis, salient statements, implications, and symbolic phrases, and to discover topics or subtopics. Implications and connections among topics were assessed to construct the study's final findings (Bryman, 2004; Ryan & Bernard, 2003).

Trustworthiness

During data interpretation and analysis, the insider perspective of the researchers provided a nuanced understanding of the terminology, emotions, and contextual subtleties embedded in participants' narratives. At the same time, we recognised the inherent bias in this position. Hence, reflexivity was actively incorporated throughout the research process to minimise potential biases. To enhance analytical rigour, the research team (authors of this study and research assistants) conducted regular debriefing sessions to discuss preliminary findings, challenge individual interpretations, integrate multiple perspectives, and refine the coding framework and thematic interpretations. This study establishes trustworthiness through three indices: credibility, transferability, and dependability. Together, these strategies promoted transparency, reduced researcher bias, and

ensured that the findings remained grounded in participants' experiences.

(1) Credibility

Credibility refers to the internal validity of the data obtained. In other words, researchers observe what they expect to observe. First, when drafting the interview summary questions, the research team (the authors of this study and research assistants) discussed the summary multiple times, and a third researcher (an outdoor recreational sport expert) revised it and provided suggestions. Next, during the interview, the interviewees were given sufficient time to share their thoughts. Moreover, triangulation was used post-data analysis. Our research team members conducted the primary analysis. All the authors have experience in triathlon and qualitative research. We should be able to grasp the meaning and connection of the interview context. However, explanations of deeper meanings may deviate from the original due to personal experiences. During analysis, sensitising concepts and thematic analysis were combined to balance insider understanding with theoretical rigour. Data were revisited iteratively to ensure interpretations remained grounded in participants' narratives rather than in researchers' preconceptions. To avoid deviation, the results were also compared with records and data provided by the interviewees (Facebook, triathlon notes and posts, etc.).

(2) Transferability

Transferability refers to the external validity of the data. In other words, the researchers transcribed the interviewee's experience to reduce the researcher's subjective idea. Our research team members completed qualitative research and interview skills training, and our team conducted all interviews. Moreover, the interview was transcribed during the interview. We confirmed the accuracy of our interpretation and clarified any unclear details. Last, during the data analysis, in addition to examining and discussing within our team, an additional qualitative

researcher with triathlon experience was invited to explore the results to avoid divergence in the analysis.

(3) Dependability

Dependability refers to the reliability of the data. Researchers need to clearly state the research processes and ensure data reliability. In addition to audio recordings of the interview content, written notes on the interviewee's nonverbal behaviour, emotions, and speaking tone were noted. The interview was transcribed immediately after the interview. The authors listened to the interview again to check the transcription. Subsequently, the transcript was given to the interviewee to confirm the context and to further revise or add missing parts.

Research ethics concern

During the qualitative interviews, the researcher may inadvertently expose the interviewee's personal life. Thus, ethical concerns are considered when using people as research participants. The ethical measures employed include informed consent, confidentiality, and compensation for participation. This study began after participants provided informed consent. In addition, the ethics of this study were reviewed and approved by the National Taiwan Normal University Research Ethics Review Committee (File number: 202005HS036).

Findings

This research aims to investigate the progression of recreational specialisation in amateur Ironmen. After data analysis, the researchers identified three concepts: 'Facilitators,' 'Specialisation development,' and 'Changes after the progression.'

Facilitators and their Subthemes

Based on the interview results, we categorised the facilitators into two subthemes: personal desire and social support.

(1) Personal Desire

Personal reasons or personality traits, such as persistence and perseverance, are important facilitators.

“I think I can do better. That is why I kept challenging myself.” (G-02-B-P9)

“I have the mentality of an athlete to never give up. I kept on participating. (G-04-C-P26)

In addition, setting goals to consistently improve and learn is another facilitator.

“I think that entering the sport, people will start setting goals. How do you set different steps to achieve that ultimate goal? (G-03-D-P27)

“As an amateur athlete, I hope to become an expert-level participant. I use this as a starting point. This is my biggest dream.” (G-04-A-P16)

Moreover, prior experience can be transferred or expanded, thereby promoting a personal desire to further self-challenge.

“I got into the sport because I like to run and swim. A triathlon team was starting up when I was in school, and I was one of them.” (G-04-B-P7)

“I know how to ride a bike and run. At the time, I ran a half-marathon. I started triathlon, so I learn how to swim.” (P-02-B-P2)

(2) Social Support

Social support, such as encouragement and support from family and other triathlon hobbyists, is also a crucial facilitator.

“This bike was given to me by my father-in-law, so I cannot give up. I participated year after year, and I became more interested in it.” (G-03-A-P3)

“Support from friends is important. They will determine if I can wake up in the morning or not. To be able to do early group training, you need to show up.” (P-01-A-P4)

Guidance from people who have been in the field for longer and from professional coaches is also a facilitator that allows amateur Ironmen to progress along the recreational specialisation continuum.

“In the beginning, I’d find friends or teammates who were good at cycling and

ask for their guidance. I found people who were better at running, too.” (G-04-C-P32)

“Coaches allow you to save time. They’ll guide you with advice in a timely manner. (G-03-E-P9)

Participants’ tendency for serious leisure and their willingness to continually learn directly affect the recreational specialisation continuum and promote their personal desire to specialise (Smith et al., 2022). At the same time, the responses show that social support enhances the progression of recreation specialisation, such as friendships with people with similar interests.

Specialisation development and its subthemes

During the progression of specialisation, from 51.5 km to 113 km and 226 km, a person’s cognition, behaviour, and affection might develop.

(1) Cognition

When acquiring triathlon knowledge, tangible experience is needed to verify, digest, adjust, and consolidate it into information best suited to you.

“I acquired cognitive information from online sources and books, and then I internalised it. I then adjusted myself and put down things that I am overly fixated on.” (G-02-A-P20)

By improving skills and learning techniques for equipment maintenance, and with a detailed plan, long-term preparation, and a training regime, the techniques needed to complete the race are strengthened.

“To prepare for a 226 (km race), generally people start five to six months ahead of time. To respect the race and to challenge myself, I practice about 17 or 18 hours per week.” (G-02-B-P16)

“Techniques will, of course, improve. For instance, from 51.5, 113, to 226 (km), techniques like cycling and running pace, ways to save energy, and taking a breath when swimming will develop.” (G-01-D-P21)

Participating in race simulation trainings and pre-race meetings improved participants' understanding of the racecourse.

"I will see what kind of race or route it is, and train accordingly." (G-02-C-P18)

"Everyone must go to a pre-race meeting. I learned from others' experiences." (P-01-A-P8)

(2) Behaviour

Participation behaviours are reinforced despite long-term, frequent races.

"One of the craziest things I did was when I raced two 113 and a 226 in a month! That month, I was so busy." (G-01-A-P6)

Post-race self-examination and accumulation of experiences also help to improve participants' performance.

"I will self-examine post-race to see where I can improve. I want to analyse my weaknesses compared to opponents and know where to improve." (G-02-B-P17)

There is a constant investment in racing costs for equipment upgrades, training courses, transportation, and accommodation.

"I have two bikes. Plus, I have taken ultramarathon, kinesiology taping, and physical fitness courses, and I have medical bills for injuries. As I mentioned from the Ironman course, I had the opportunity to spend money extensively (chuckle)." (G-03-C-P18)

"The registration fee is a big expenditure, plus there is also transportation and accommodation. If I had to do multiple races, I would set the two-day race as a goal. For example, a 226 first followed by a 51.5 or a 226 on the first day and a 113 on the next. Using this strategy, I can save money." (G-04-B-P12)

(3) Affection

Long-term involvement and participation enabled participants to enjoy the happiness racing brought.

"I get goose bumps when racing. Wow, racing! How satisfying! I am finally seeing the results of my hard work. Enjoy it. I really love the feeling of racing." (G-02-C-P18)

It is vital to blend triathlons into your daily life.

"Triathlon takes up about one-third of my daily life. It takes up the proportion besides working, sleeping, and resting." (G-02-A-P21)

"I sacrifice many other sports for triathlons. Now, triathlon has taken up most of my time. It's like true love. It is part of life." (G-03-B-P26)

Triathlons become a source of satisfaction and self-fulfilment, heightening participants' emotions.

"I want to see my improvement from races. It is a kind of self-affirmation. Triathlon, to me, is a big source of satisfaction." (G-02-C-P19)

"I hope triathlon can bring motivation to continuously challenge myself. It can empower me to do things that I don't think are possible." (G-04-B-P13)

According to several studies (Bricker & Kerstetter, 2000; De Salvo et al., 2020; Lee & Scott, 2004; McIntyre & Pigram, 1992), the progression into recreation specialisation involved changes in cognition, behaviour, and affect. The respondents directly indicated how they changed and developed across the three recreational specialisation domains (cognitive, behavioural, and affective) as an amateur Ironman progresses along the recreational specialisation continuum and challenges him- or herself to complete a 226 km Ironman race.

Changes After the Progression and its Subthemes

(1) Personal inspirations

The Ironman journey might bring personal inspiration, including improved health from regular exercise, a sense of self-identity, and moral enlightenment.

"Physiologically and psychologically, it helps to a certain extent. It helps to increase confidence. To prepare for a race, I will force myself to have a healthy routine and diet." (G-04-D-P6)

"I don't just see it as a fun exercise. I also need to find an outlet and a comfortable

method to keep myself happy and have a motivation to live, despite having many worries.” (G-04-A-P23)

Many make friends with others who share their interests, which reinforces their self-affirming mindset.

“In the past, when I went abroad, I would line up for luxury handbags like others. Now, all I look for is cycling shoes with cleats, sneakers, and workout clothing (chuckle). I have a completely different spending style. I don’t buy clothes that much now because I have too many t-shirts from races.” (G-01-C-P5)

“All you have is ironmen because other people would not understand you. Other friends will think that you are a psychopath. For example, my old friends were girls who would go out for afternoon tea. Now, I think this is a waste of time.” (G-03-B-P20)

Additionally, participants turn the experience of finishing an Ironman race into a source of edification for life and work.

“We can’t avoid frustration in life and in work. Just think that you have already achieved something so difficult. We just have to have patience and do things step by step. All problems can be solved.” (G-01-A-P15)

“226 is like a miniature life. At the start or in the middle of the race, you might encounter a flat tyre, lose your goggles, and other odd things that cannot be predicted. This is just like what life gives you. No one is going to whip you on the back or force you to do it. When you register for the race, that is the challenge you give yourself.” (P-05-E-P 13)

(2) Participating preference

Furthermore, from extensive participation experience, participants develop preferences for a particular location, route, or race organiser.

“I like the feeling ‘Challenge Taiwan (CT)’ creates. It is so lively. Companies and hosts who create a joyful atmosphere can certainly attract more people to participate, especially family participation.” (G-04-E-P35)

“IRONMAN to me... I think I like its spirit. Additionally, IRONMAN would close roads to traffic, which makes it special. They use a ROLLING START, so you can easily stretch your ankles.” (P-03-C-P12)

(3) Role changes

Participants share their experiences because they completed their goal to finish an Ironman race.

“I think I can share my personal experience with others. It feels like I can actually help people. Yes, now I think my role is different. It’s like being a teacher.” (P-05-E-P10)

Participants might develop a desire to tackle other challenges.

“Now, for example, if my friends want to hike, we will attempt summit on the same day. You have the physical capability to do other sports.” (G-01-C-P6)

Participants also reach a point at which they experience a role change, relax, and stop pursuing.

“Very few would go back and register for a 51.5 if he/she has finished a 226. Sometimes, when you train on your own, you may do a 51.5 on a weekend. When you get to 226, there’s not much more to do. You would stop for a little while and stop participating.” (G-03-C-P18)

The responses demonstrate that the specialisation process of triathlons has a positive effect on participants’ physical health and develops friendships and a sense of identity and belonging, which are consistent with the previous research, such as the personal and social influences in the process of recreational specialisation in amateur triathletes (Andreasson et al., 2018; Lamont et al., 2019).

Table 3. The concepts of progress of recreation specialization for amateur ironman

Concepts	Themes	Sub-themes
Facilitators	Personal Desire	1. Traits of serious leisure 2. Willingness to continue learning 3. Ability to transfer learning
	Social Support	1. Encouragement and support from families and friends 2. Professional lead and accompany
Specialization development	Cognitive Domain	1. Unify the knowledge 2. Strengthen finishing techniques 3. Understanding of the racecourse
	Behavioral Domain	1. Long-term intensive participation 2. Accumulation of experiences 3. Investment in racing costs
	Affective Domain	1. Enjoy the happiness 2. In the daily life
Changes after the progression	Personal Inspiration	1. Maintain good health 2. Self-identity 3. Life work inspiration
	Participating Preference	1. Location-specific routes 2. Favorite race selection
	Role Change	1. Inheritance of veteran experience 2. Rest and stop pursuing 3. Move to other sports

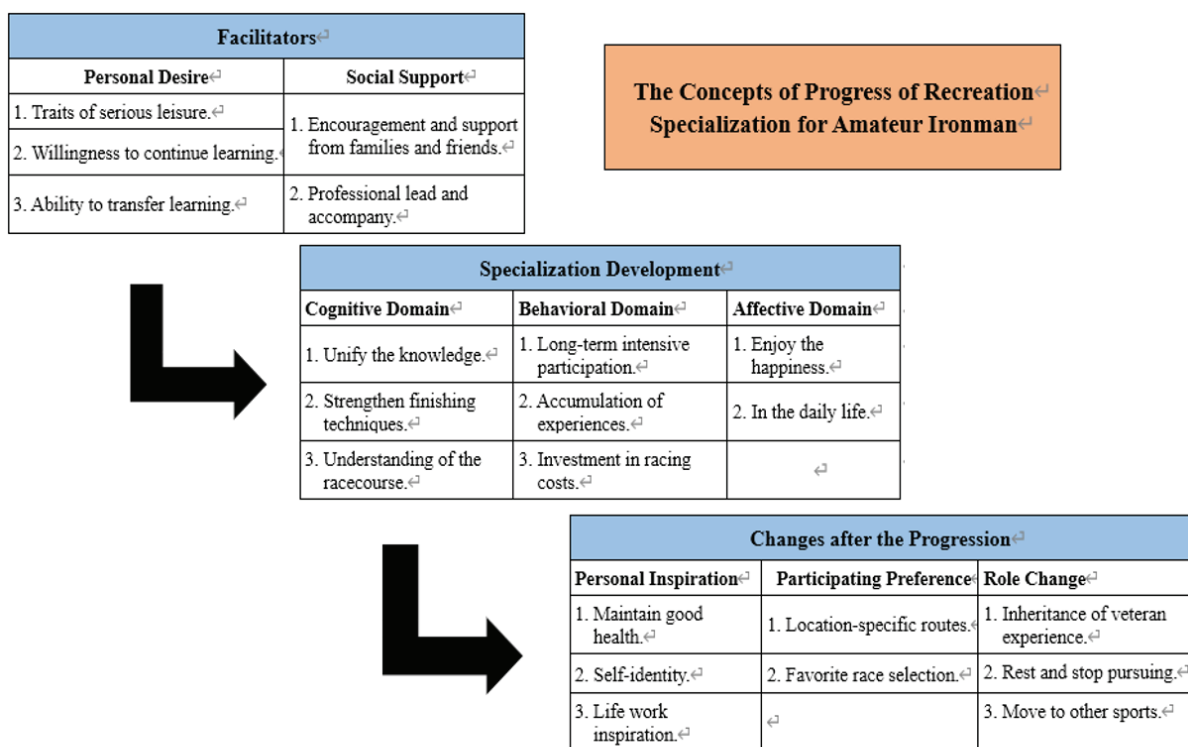


Figure 1. The concepts of progress of recreation specialization for amateur ironman

Discussion

This study examined how amateur Ironman triathletes progress along the recreational specialisation continuum. The results reveal a coherent trajectory shaped by three interconnected concepts: ‘Facilitators’, ‘Specialisation development’, and ‘Changes after progression’, as well as eight themes (see Table 3) (see Figure 1). These findings confirm and extend existing frameworks of recreational specialisation (e.g., McIntyre & Pigram, 1992; Bricker & Kerstetter, 2000; Lee & Scott, 2004), while highlighting how the Ironman context intensifies the integration of motivation, behaviour, and identity.

Firstly, facilitators of progression emerged as personal desire and social support. Traits such as perseverance, persistence, and goal-setting reflect the characteristics of serious leisure (Stebbins, 1992) and align with previous studies highlighting continuous learning and challenge-seeking (Codina et al., 2017; Tsaour & Liang, 2008). Transferable experiences from running, cycling, or swimming further accelerated engagement (Smith et al., 2022). Yet internal motivation alone was not enough to sustain involvement. Family encouragement, peer accountability, and professional coaching provided essential support, consistent with findings by Andreasson et al. (2018) and Scott and Lee (2010). Progression, therefore, reflects a dynamic interaction among personal traits, prior skills, and social support (Backlund & Kuentzel, 2013; Kuentzel & Heberlein, 2006).

Secondly, specialisation developed across cognitive, behavioural, and affective domains. Cognitively, triathletes consolidated knowledge about training, nutrition, and race strategy through experiential learning (Kennelly et al., 2013; Caru et al., 2022). Behaviourally, long-term training routines, repeated race participation, and substantial financial investment demonstrated growing commitment (Dupont et al., 2022; Baird, 2019). Participants reported strong

emotional attachment, stress relief, and symbolic identification with triathlon culture (Lamont et al., 2019; Maxcy et al., 2019; Verchère, 2017). These findings reaffirm the three-domain model of specialisation and show how the extreme demands of triathlon embed specialisation not only in athletic practice but also in lifestyle and identity.

Finally, changes after progression extended into broader life contexts, reshaping values, choices, and roles. Consistent with previous research, participants reported gains in physical health, confidence, and resilience (Lamont et al., 2019; McCarville, 2007), as well as the development of stronger social networks and a deeper sense of belonging (Andreasson et al., 2018). Many developed attachments to specific routes or race organisers for both practical and symbolic reasons (Oh et al., 2013; Aicher & Newland, 2018). Role transitions also emerged, reflecting diverse post-achievement paths: some participants became mentors, others pursued new challenges, and some withdrew from active participation after reaching peak goals. These patterns highlight the cyclical nature of specialisation as triathletes redefine their identities after achieving major milestones—such as completing a 226 km race.

In summary, amateur Ironman specialisation reflects a multidimensional progression driven by personal motivation and social reinforcement, structured through cognitive, behavioural, and affective integration, and culminating in identity transformation. The process demonstrates how extreme endurance contexts extend recreational specialisation theory by linking sport participation with broader life adaptation, resilience, and self-redefinition.

Theoretical contributions

The findings of this research contribute to theoretical advancement by refining, challenging, and extending both

recreational specialisation theory (RST) and the serious leisure perspective (SLP). First, they refine RST by showing that specialisation is not always a linear progression from general to highly committed participation; instead, triathletes may display cyclical or situational shifts in specialisation depending on factors such as training demands, injury, or life stage. Second, the findings challenge the assumption in both RST and SLP that skill acquisition and commitment inevitably lead to deeper engagement. Instead, evidence suggests that participants sometimes adopt flexible or hybrid patterns of involvement—balancing serious commitment with casual engagement—which complicates the traditional binary between “serious” and “casual” leisure. Finally, the study extends both frameworks by emphasising the role of social worlds, identity negotiation, and lifestyle integration as mediating forces that shape long-term participation. This broader lens suggests that recreational specialisation and serious leisure should be theorised less as static trajectories and more as dynamic, socially embedded processes.

Recommendations

Future research directions

This study serves as the basis for future large-scale model construction. As the number of Ironman participants increases over time, we recommend that future studies develop survey items, construct scales, and conduct validity tests based on our main and sub-concepts to further build on and validate the findings of this qualitative study and the connections between the concepts.

We discovered during the interviews that recreational specialisation does not always proceed smoothly. During specialisation, personal limitations (e.g., technical difficulties and sports injuries) or external limitations (e.g., financial difficulties, family life cycle, and unexpected events or changes) can create obstacles. Overcoming these obstacles will

allow participants to continue progressing. Strategies to adjust one’s mentality to overcome obstacles and find a balance in life are future topics worth investigating. Finally, “the water that bears the boat is the same that swallows it.” While the progression of amateur triathletes along the recreational specialisation continuum brings physical and mental benefits and life edification, it can also have negative impacts on individuals, their work, and their families. Addiction and over-involvement can lead to an imbalance and are thus issues worthy of further investigation.

Practical implications

At the individual level, coaches can support Ironman participants by using structured goal-setting to sustain motivation and reorient them after milestones such as completing a 226 km race. Training should emphasise experiential learning—through simulations, route familiarisation, and equipment handling—while also addressing psychological resilience, lifestyle balance, and injury prevention. In addition, peer mentorship programmes that connect experienced finishers with novices can strengthen knowledge sharing and community bonds.

At the organisational level, sport clubs play a crucial role in sustaining engagement by fostering community through group training, accountability networks, and family involvement. Flexible pathways, ranging from casual participation to high-performance squads, allow Ironman participants to remain engaged across stages of specialisation. Clubs can also ease financial burdens through partnerships with equipment providers and health professionals, while recognition events and storytelling reinforce identity and a sense of belonging.

At the policy level, recreational sport policy should promote lifelong engagement by supporting participation at all ages with subsidies and wellness-oriented programs. Policies can incentivise organisers to create

inclusive, family-friendly events and integrate Ironman participation into broader public health initiatives that highlight both physical and psychological benefits. Finally, investment in mentorship support and safe infrastructure, such as bike lanes and open-water swim zones, will enhance accessibility and ensure the long-term sustainability of the sport.

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Appendix

Interview Guide

Interview Date: _____

1. Facilitating Factors

- Looking back on your participation in triathlon, what initially motivated you to join?
- What led you to set the completion of the Ironman 226 race as your ultimate goal and continue your involvement?
- What supportive factors (people, events, or resources) contributed to this process?

2. Recreation Specialisation Development

- a. Cognitive Dimension
 - During your journey in triathlon participation, how has your knowledge of the sport, technical skills, and understanding of competitions evolved?
- b. Behavioural Dimension
 - In preparing for the Ironman 226 race, how much training time did you spend?
 - How many competitions did you participate in annually (including different distances)?
 - What were your expenditures on race registrations, equipment, and gear upgrades?
- c. Affective Dimension
 - What were your feelings during training and participation in Ironman competitions?
 - What emotions did you experience after completing these challenges?
 - What proportion of your life does triathlon occupy, and what role does it play?
 - What meaning does triathlon hold for you personally?

3. Changes of recreation specialisation

- After completing the Ironman 226 race, what influences or inspirations have you experienced personally?
- Has your participation in triathlon affected your preferences in training venues, race routes, or frequency of competition?