



Babi Actif: creating a culture of active families

Supporting parents and
children to get active during
a baby's first 1000 days



Cronfa Iach ac Egnïol
Healthy & Active Fund





Background

- In Wales over **30%** of adults spend **less than ½ hour per week being active** and **1 in 4 children** are **obese** when they start school.
- **New parents are more sedentary** than singles or married couples without children. Families with children under five were particularly impacted by the pandemic. Concerns include threats to physical health and development as a result of lockdowns.
- **Depression and anxiety affect one in seven women** during the perinatal period. Perinatal mental health problems tripled as a result of the pandemic. **50%** of women who are depressed **remain undiagnosed** during and following pregnancy.
- **Inactivity** in Wales costs Wales **£650 million** per year whilst **poor mental health** costs it **£7.2 billion**.
- The **first 1,000 days** - the period from conception to a child's second birthday:
 - ▶ A unique window of opportunity to enhance future physical health and mental wellbeing.
 - ▶ During this time babies' growing brains are shaped by their experiences, particularly interactions they have with their parents and other caregivers. What happens during this time lays the foundation for future development.
- Previous research (Malone & Waite, 2016; Kemp et al., 2021; Shin, Sin and Lee, 2013) suggests **babies benefit from being outdoors**.
- Time spent outside with the baby also **encourages parents to exercise and reduces mental illness** such as post-natal depression (Daley et al., 2009).
- **Time spent outside** during the foundational years appears to be **decreasing** (Gill, 2014).
- There is a **lack of support** encouraging parents to overcome real and perceived barriers to getting active outdoors with small children.

Babi Actif's project objectives

Babi Actif's project aim was to support parents to be active outdoors with their babies during their baby's first 1000 days: the period from conception to a child's second birthday.

The project's objectives were to:

- **Deliver targeted interventions** to overcome real and perceived barriers to getting active outdoors with small children
- **Promote enjoyable, active activities** which were accessible to parents and children during baby's **first 1000 days**
- **Identify and promote** new, innovative activities for families with young children
- **Deliver a physical and digital campaign** which shared ideas of how to get outdoors and active with baby
- **Share positive stories** of how being active outdoors has enriched family





The Babi Actif project:

● Started in Jan 2020 and is ongoing

● Available to residents of Conwy, Denbighshire, Anglesey and Gwynedd

● Session delivery:

- ▶ **'Baby Forest School'** (also named 'Forest Play', 'Baby Sensory' and 'Messy play') includes **games, art, craft** using the natural environment and sensory stimulation through nature.
- ▶ **'Tree Babies'** is like 'Baby Forest School' but **delivered by a forest school leader** who has also undergone tree babies training. Sessions have more of a **focus on parents wellbeing** (which in turn supports babies wellbeing).
- ▶ **'Buggy Active'** includes **postnatal exercise**, completed **outdoors with babies**. A range of exercises suitable for new parents six weeks postpartum or 12 weeks post-c-section (with health clearance from doctor) are completed.
- ▶ **'Little Steps'** includes **nature-inspired movements** to keep parents active whilst having fun with their baby and provided an outdoor sensory experience for parents and babies.
- ▶ **'Little Explorers (park)'** includes **nature-inspired activities, songs and stories** based in a **playground setting**.
- ▶ **'Little Explorers (wood)'** (also named 'Nature Active') includes **nature-inspired activities, songs and stories** based in a **woodland setting**, and often includes a toddler-paced, buggy friendly walk.



Other Babi Actif resources:

- ▶ On all social media platforms, **positive images of parents being outdoors with their babies** during Babi Actif sessions were posted and videos of parents providing positive comments about their participation in Babi Actif were compiled and distributed.
- ▶ Hard copies of the Babi Actif-generated **'Things to do before you're two'** resource pack were distributed.
- ▷ **'Things to do before you're two'** is a practical resource to help parents be outdoors and active whilst aiding baby development (www.babiactif.co.uk/active-ideas). It comprises a resource deck of flashcards which have been created as a cognitive and physical development aid and a Welsh learning resource.

Advertising between Jan 2020 & Feb 2023:

- ▶ **18,908** unique visitors to Babi Actif website;
- ▶ **~500 posts** on Facebook with **3,300 followers**;
- ▶ **79 posts** on Instagram with **946 followers**;
- ▶ **600 Babi Actif leaflets** and **40 posters** were printed and distributed.



Session delivery and resource generation between Jan 2020 & Feb 2023:



- ▶ **1844 parents** engaged with the Babi Actif project and on **average completed 4 sessions** each;
- ▶ There were on average 8 parents in each session;
- ▶ **133 six-to-eight-week courses** including **726 sessions** were delivered;
- ▶ **48 summer taster sessions** were delivered;
- ▶ **714 'Things to do before you're 2' packs** were distributed.
- ▶ There were **nine different session types offered**, which included:



Buggy Active
48%



Forest Play
30%



Little Explorers
10%

Scientific evaluation

- ▶ **Independently authored by Bangor University** to evaluate whether Babi Actif achieved its aim, **objectives** (table 1, p8.), **targets** (table 2, p9.), and **outcomes** (table 4, p10.)
- ▶ **Included a quantitative evaluation of survey data** (executive summary 1) and a **qualitative evaluation of focus groups** with parents and service providers (executive summary 2)





Project outcomes:

Bangor University's scientific evaluation concluded that, overall, Babi Actif achieved its aim: to support parents to be active outdoors with their babies during their baby's first 1000 days: the period from conception to a child's second birthday.

The report also suggested that it was likely that the Babi Actif project achieved its expected outcomes including improving health and wellbeing in new and expectant parents and increasing the number of babies achieving their developmental outcomes at age two.

Other notable findings included parents reporting that the Babi Actif project resulted in sustained healthy behaviour change and that Babi Actif was successful because of its unique offer (being delivered outdoors, for free, and with a focus on the parent as well as the baby), all facilitated by enthusiastic and trained staff.

A summary of whether Babi Actif achieved its objectives is provided in Table 1.

A summary of whether Babi Actif achieved its targets is provided in Table 2.

A summary of whether Babi Actif achieved its expected outcomes is provided in Table 3.

Table 1. Babi Actif objectives

Project objective	Achieved?	Evidence
Deliver targeted interventions to overcome real and perceived barriers to getting active outdoors with small children	Yes	774 Babi Actif sessions were delivered that were attended by 1844 parents.
Promote enjoyable, active activities which were accessible to parents and children during baby's first 1000 days	Yes	Nine different session types were offered to parents and their babies that were well received by parents: 96% of parents were satisfied with the quality of the Babi Actif sessions and 97% would recommend Babi Actif sessions to a friend or family member. The average age of babies attending Babi Actif sessions was 206 days old.
Identify and promote new, innovative activities for families with young children	Partially	Nine different session types were offered to parents and their babies. However, according to comments made by the Babi Actif organisers, some planned session types of a more adventurous nature have not yet been initiated due to logistical barriers (including pandemic restrictions and access to equipment).
Deliver a physical and digital campaign which shared ideas of how to get outdoors and active with baby	Yes	Hard copies of a resource pack 'Things to do before you're 2' were designed, printed and distributed, supported by posters and leaflets. A digital marketing campaign included generation of a dedicated website with ~19,000 unique visitors; a Facebook site with 500 posts and ~3,300 followers; and an Instagram feed with ~80 posts and ~1000 followers.
Share positive stories of how being active outdoors has enriched family	Partially	Although general information has been provided on benefits of being outdoors and active with babies, no case studies have been collated and shared to date. However, positive images of parents being outdoors with their babies have been re-posted on social media and videos of positive comments from parents have been compiled.



Table 2. Babi Actif targets

Project Target	Achieved?	Evidence
Deliver a minimum of 606 Babi Actif sessions as part of this project involving over 1500 parents and 1500 babies.	Yes	774 Babi Actif sessions were delivered that were attended by 1844 parents.
Deliver 36 x 6-to-8-week courses	Yes	Delivered 133 x 6-to-8 week blocks, plus 26 x 3-to-5 week blocks.
Deliver 90 x taster sessions	Partially (n.b. project ongoing)	48 Summer taster sessions delivered as of 02.02.23.
Deliver 300 weekly drop in sessions	No	Babi Actif decided not to offer these sessions because COVID prevented sessions running without prior-registration, and because pre- and post-covid, provision was deemed adequate with courses and taster sessions.
Obtain 5000 unique visitors to the Baby Actif website	Yes	Website has attracted 18,908 unique visitors.
Obtain 1000 downloads & 50 posters in 3 counties of the “Things to do before you’re 2” resource pack	Partially (n.b. project ongoing)	The ‘Things to do before you’re 2’ pack was generated and made available for digital download. As of 02.02.23, 714 packs and 40 posters have been distributed across 4 counties. In addition, 600 leaflets were printed and distributed.
Train 20 volunteers to lead activity sessions	No	An alternative model was utilised, that involved contracting skilled facilitators rather than providing in-house training.

Table 3. Babi Actif expected outcomes

Expected outcome	Achieved?	Evidence
Improve the perceptions of new and expectant parents towards getting outdoor and active with small children	Yes	Qualitative focus groups revealed that Babi Actif sessions helped parents with practical parenting skills and educated parents on outdoor opportunities available around their home. Social support further facilitated parents to get outdoors with their babies, both within Babi Actif sessions and longer term within their newly formed social networks.
Increase habitual physical activity levels in new and expectant parents	Likely	The main outcome of habitual physical activity (IPAQ) could not be analysed statistically at follow up. However, parent satisfaction surveys revealed that 46% of parents appreciated the opportunity to exercise in Babi Actif sessions, and qualitative focus groups revealed that Babi Actif sessions provided the only opportunity since giving birth for some parents to exercise.
Improve health and wellbeing in new and expectant parents	Likely	The main outcome of mental wellbeing (WEMWBS) could not be analysed statistically at follow up. However, parent satisfaction surveys revealed that 88% of parents agreed that their own health and/or wellbeing improved because of a Babi Actif session. In addition, qualitative data obtained from focus groups strongly supported that health and wellbeing (particularly mental wellbeing) were positively influenced by Babi Actif participation.
Increase habitual physical activity levels in babies	No	Due to a lack of pragmatic and valid measures being available to assess physical activity in babies, this outcome could not be assessed.
Increase the number of babies achieving their developmental outcomes at age 2	Likely	Due to difficulty in engaging midwives to help evaluate baby development, this outcome could not be assessed. However, qualitative data obtained from focus groups resulted in generation of a Mother and Baby Benefits Model that suggested baby development was enhanced by Babi Actif participation.
Improve health and wellbeing of babies	Partially	Due to a lack of pragmatic and valid measures being available to assess health and wellbeing in babies, this outcome could not be assessed objectively. However, qualitative data obtained from focus groups strongly supported that being outdoors provided sensory benefits and facilitated babies' sleep. The Mother and Baby Benefits Model further suggested that enhanced health and wellbeing of mothers (particularly mental wellbeing) positively influenced babies' health and wellbeing through direct (mothers' wellbeing) and indirect (sensory stimulation and babies' sleep) pathways. In addition, parent satisfaction surveys revealed that 83% of parents agreed that their baby's health and/or wellbeing improved because of a Babi Actif session.



Quantitative Evaluation of Survey Data

Executive Summary

The aim of this quantitative research was to evaluate the effectiveness of the Babi Actif project by analysing demographics and self-report survey responses of Babi Actif participants.

Methods

A survey was distributed to all parents who registered for the Babi Actif project: by paper hard copy (between 08.01.20 and 27.11.20) and by an online platform (between 09.04.21 and 02.02.23). At request of the study funders, the survey included the Warwick Edinburgh Mental Wellbeing Scale (WEMWBS) and the International Physical Activity Questionnaire (IPAQ), plus questions on demographics, deprivation, and health and disability. Parents were followed up immediately post participation, and at six and twelve months by re-distributing the same survey. A second online survey focusing on parent satisfaction was distributed to all participants who attended a Babi Actif session between 19.04.21 and 27.09.22. At request of the Babi Actif project organisers, topics explored by the second survey included organisation of Babi Actif sessions and participants' perceptions of their own and their baby's health and wellbeing in response to attending Babi Actif sessions. Data were presented as means (SD), medians (interquartile range) and percentages (%), and due to the low number of follow up data, were analysed visually only.

Results

97% of parents were female; **86%** were aged between 25 and 39 years old; **96%** were white; **93%** were not limited by a disability. Participants were normally distributed across the Welsh Index of Multiple Deprivation deciles and the largest proportion of participants came from urban city and towns (C1) and rural towns and fringes (D1). Babies median age (IQR range) was 206 (96 to 455) days.

Mean mental wellbeing of the recruited cohort at baseline was on average 'moderate' (51 AU). However, **17%** of the population reported low mental wellbeing scores (less than 40 AU). Median (IQR range) total habitual physical activity was 4167 (1848 to 6504) MET-minutes per week and thus parents on average apparently exceeded the recommended minimum physical activity guidelines. Nevertheless, **11%** of the population did not achieve the UK and US recommended physical activity guidelines of 500 MET-minutes per week. Although WEMWBS and IPAQ data could not be analyzed statistically at follow up, **88%** (102 of 116 respondents) agreed that their own health and/or wellbeing improved because of a Babi Actif session whilst **83%** (96 of 116 respondents) agreed that their baby's health and/or wellbeing improved too.

96% (111 of 116 respondents) were satisfied with the quality of the Babi Actif sessions, with parents most commonly stating that being in the outdoors and meeting other parents were what they liked about those sessions.

Recommendations

It is recommended that the unique strengths of Babi Actif, such as sessions being run outdoors, and meeting other parents, are maintained. Consideration could be given to session design and recruitment strategies to ensure Babi Actif attracts a more diverse demographic of participants. Individual preferences and perceptions of Babi Actif participants could be enhanced by considering bilingual provision, session structure, and session location and timing. Finally, a more meaningful assessment of Babi Actif's impact upon mental wellbeing and habitual physical activity may be possible with a simpler outcome assessment.

Conclusion

Overall, Babi Actif sessions were well received by parents and were perceived to have a positive impact upon both parent and baby health and wellbeing. Reflection on session design and simplification of outcome assessment may ensure these benefits are accessible to a more diverse range of parents and are recordable over the short and long term.



Qualitative Evaluation of Focus Groups with Parents and Service Providers

Executive Summary

The aim of this qualitative research was to evaluate the effectiveness of the Babi Actif project from the perspective of parents and service providers.

Methods

Two focus groups with parents and one focus group and two interviews with staff were held either in person or via Microsoft Teams. Parents were either currently attending or had recently stopped attending Babi Actif sessions whilst staff were either session leaders or commissioners. Focus groups and interviews used open ended questions to facilitate discussion around the benefits and/or negatives of attending the sessions, any barriers to the running or participation in sessions and more broadly the evaluation of the project as a whole. These discussions were recorded and transcribed. Transcriptions were then analysed thematically to identify key themes.

Results

The themes identified are presented in **Figure 1 (p12)**. A key finding, illustrated with the **Mother and Baby Benefits Model (see Figure 2, p12)**, was that all of the mothers' benefits were inter-linked and that these benefits ultimately also benefitted the baby. Specifically, direct outcomes of attending Babi Actif sessions included holistically improving the mother's wellbeing, which increased the effectiveness with which they could be a parent and ultimately benefitting the baby. Why the Babi Actif project was effective, as well as aspects which could be improved, were also identified. Challenges to participation in Babi Actif were noted, with improvements to overcoming these challenges suggested by parents and staff. Basic Psychological Needs Theory (BPNT) was then applied to the findings to propose a mechanism explaining why the Babi Actif project was successful. The way service providers delivered the sessions, the social support gained through attending the sessions, and the content delivered in the sessions may have enhanced the three core tenets of BPNT (autonomy, competence and relatedness), which essentially determine a person's wellbeing.

Recommendations

It is recommended that the unique strengths of Babi Actif, such as sessions being run outdoors, are maintained. Given that service providers were identified as a reason for Babi Actif's success, carefully selecting future providers is advised. Specific desirable traits of staff include specialised skills regarding supporting mothers post-partum and a flexible, relaxed manner of delivery. Communication with prospective parents could be improved with a broader marketing campaign and diversified means of contacting Babi Actif. Additionally, improved communication with current parents and service providers is recommended to improve staff and parent satisfaction. Finally, it is recommended that revised taster sessions and family sessions be considered to encourage an increase in male parenting figures attending Babi Actif sessions.

Conclusion

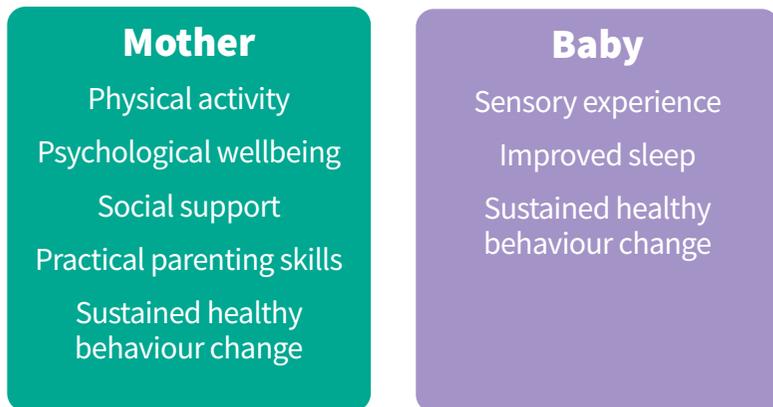
Overall, views of the Babi Actif project were overtly positive, with Babi Actif providing physical activity and wellbeing support that was not available elsewhere, particularly during the pandemic.



Figure 1.

Themes identified from interviews with parents and staff in the Babi Actif project

Benefits to participants

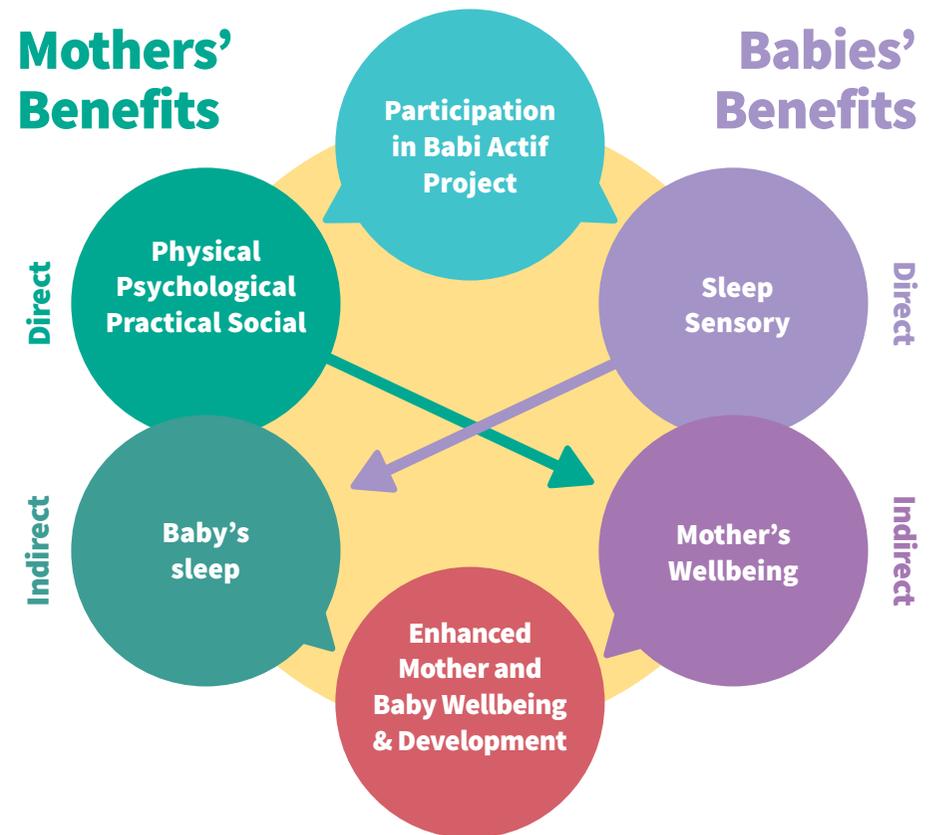


Why sessions were effective

Staff expertise & experience | Unique offer

Figure 2.

Mother and Baby Benefits Model



Further resources and key references

Full report available from: j.h.macdonald@bangor.ac.uk

Babi Actif website: www.babiactif.co.uk

Babi Actif Email: babiactif@snowdonia-active.com

Scientific evaluation by **Jamie Macdonald PhD**

Web: www.bangor.ac.uk/staff/human-behavioural-sciences/jamie-macdonald-011148/en

Email: j.h.macdonald@bangor.ac.uk

Active Lives Adult Survey, 2022. <https://www.sportengland.org/research-and-data/data/active-lives>. Accessed 22.03.23.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative Research in Psychology*, 3(2), 77–101. DOI:10.1191/1478088706qp063oa

Centre for Early Childhood, 2021. <https://shapingus.centreforearlychildhood.org>. Accessed 10.02.23.

Chen, B., Vansteenkiste, M., Beyers, W., Boone, L., Deci, E. L., Van der Kaap-Deeder, J., Duriez, B., Lens, W., Matos, L., Mouratidis, A., Ryan, R. M., Sheldon, K. M., Soenens, B., Van Petegem, S., & Verstuyf, J. (2015). Basic psychological need satisfaction, need frustration, and need strength across four cultures. *Motivation and Emotion*, 39(2), 216–236. DOI:10.1007/s11031-014-9450-1

Daley, A., Jolly, K., & MacArthur, C. (2009). The effectiveness of exercise in the management of post-natal depression: Systematic review and meta-analysis. *Family Practice*, 26(2), 154–162. DOI:10.1093/fampra/cmn101

Kemp, N., Durrant, I., & Josephidou, J. (2020). Making connections with their world: outdoor provision for under-twos in early childhood settings in Kent.

Deci, E. L., & Ryan, R. M. (2000). The 'What' and 'Why' of Goal Pursuits: Human Needs and the Self-Determination of Behavior. *Psychological Inquiry*, 11(4), 227–268. DOI:10.1207/S15327965PLI1104_01

Grbich, C. (2013). *Qualitative Data Analysis: An Introduction*. Sage Publications Ltd, London, UK. DOI:10.4135/9781529799606

Kemp, N., & Josephidou, J. (2021). Babies and toddlers outdoors: A narrative review of the literature on provision for under twos in ECEC settings. *Early Years*, 1–14. DOI:10.1080/09575146.2021.1915962

Liu X, Zhang D, Liu Y, Sun X, Han C, Wang B, et al. Dose-Response Association Between Physical Activity and Incident Hypertension: A Systematic Review and MetaAnalysis of Cohort Studies. *Hypertension*. 2017;69(5):813-20.

Malone, K., & Waite, S. (2016). Student outcomes and natural schooling: Pathways from evidence to impact report 2016.

Milton K, Clemes S, Bull F. Can a single question provide an accurate measure of physical activity? *British Journal of Sports Medicine* 2013;47:44-48.

QSR International. (2019). NVivo qualitative data analysis software (Version 12). QSR International Pty Ltd.

Ryan, R. M. (1995). Psychological Needs and the Facilitation of Integrative Processes. *Journal of Personality*, 63(3), 397–427. DOI:10.1111/j.1467-6494.1995.tb00501.x

Shin, Y. H., Shin, H. J., & Lee, Y.-J. (2013). Vitamin D status and childhood health. *Korean Journal of Pediatrics*, 56(10), 417. DOI:10.3345/kjp.2013.56.10.417

The IPAQ Research Committee, 2005. Guidelines for the data processing and analysis of the International Physical Activity Questionnaire. <https://www.ipaq.ki.se>. Accessed 22.05.21.

UK Government, 2023. https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/832868/uk-chief-medical-officers-physical-activity-guidelines.pdf. Accessed 10.01.23.

US Government, 2023. https://health.gov/sites/default/files/2019-09/Physical_Activity_Guidelines_2nd_edition.pdf. Accessed 10.01.23.

Vansteenkiste, M., & Ryan, R. M. (2013). On psychological growth and vulnerability: Basic psychological need satisfaction and need frustration as a unifying principle. *Journal of Psychotherapy Integration*, 23(3), 263–280. DOI:10.1037/a0032359

Vindgaard N, Benros ME. COVID-19 pandemic and mental health consequences: Systematic review of the current evidence. *Brain Behav Immun*. 2020 Oct;89:531-542. doi: 10.1016/j.bbi.2020.05.048.

Warwick Medical School, 2022. <https://warwick.ac.uk/fac/sci/med/research/platform/wemwbs/using/howto>. Accessed 22.12.22.





CELTIC ADVANCED LIFE SCIENCE
INNOVATION NETWORK

CALIN

RHWYDWAITH GELTAIDD
ARLOESI GWYDDORAU
BYWYD UWCH



PRIFYSGOL
BANGOR
UNIVERSITY



**Development of this resource supported by CALIN,
to disseminate accessible findings of a Bangor
University independent evaluation conducted in 2023.**



The Celtic Advanced Life Science Innovation Network is an Ireland Wales 2014-2020 Programme Part Funded by the European Regional Development Fund Through the Welsh Government. Grant and operational case number 80855







Babi Actif:
creating a culture of active families

Supporting parents and children to get
active during a baby's first 1000 days

www.babiactif.co.uk



Cronfa Iach ac Egnïol
Healthy & Active Fund