The physical, psychological, social, musical and educational benefits of singing

There are many different benefits arising from engaging in singing activities. These apply to all ages, from childhood through to retirement age and senescence, including adolescence - a period of significant voice transformation and developing vocal identity for young people. Across the diverse literature sources, there are five areas of benefit that are strongly evidenced.

The physical benefits of singing relate to:

1. **Respiratory and cardiac function** Singing is aerobic in that it is a form of exercise that improves the efficiency of the body’s cardiovascular system, with related benefits to overall health. Aerobic activity increases the oxygenation of the blood, which also improves overall alertness (a study in October 2007, for example, suggested that breathing pure oxygen was more beneficial than caffeine for increasing driver alertness). Even when seated, singing involves dynamic thoracic activity with benefits to the underlying structure and function of the breathing mechanism. Major muscle groups are exercised in the upper body. Furthermore, aerobic activity is linked to longevity, stress reduction and general health maintenance across the lifespan. Improving airflow in the upper respiratory tract is likely to lessen opportunities for bacteria to flourish by keeping the airways open (to counter the symptoms of colds and flu). Overall, there are whole body physical benefits from singing.
(2) The development of fine and gross motor control in the vocal system The more that the vocal system is used appropriately, such as in healthy singing, the more that the underlying anatomy and physiology realise their potential in terms of growth and motor coordination. This is very important in adolescence because it is a time when the underlying basis for adult vocal identity and effective communication are established.

(3) Neurological functioning Singing behaviour is multi-sited neurologically, networked across many different brain areas. These include the development and interaction between parts of the brain dedicated to aspects of music (such as pitch, rhythm, timbre), language (lyrics), fine motor behaviour, visual imagery and emotion. New research also suggested that singing with someone else is not the same as singing alone or with an instrument because it involves neurological areas related to human social interaction.

The psychological benefits of singing relate to:

(1) Intra-personal communication and the development of individual identity, both in music and through music Confident and healthy voice use links to a positive self-concept and an ability to communicate. Successful singing promotes self-esteem, general confidence and also self-efficacy. The voice is a key component of who we are; its use reflects our mood and general psychological well-being, communicated to ourselves as well as to others.

(2) Singing is a cathartic activity Singing provides an outlet for our feelings. Through its physical activity and related endocrine system triggering, singing allows us to feel better about ourselves and about the world around us. From pre-birth, our earliest auditory experiences are vocal (from first hearing our mother’s voice inside the womb) and all voice use, including singing, is interwoven with core emotional states that are central to the human condition, such as joy and sadness.

(3) Inter-personal communication Healthy singing enables us to maximise our potential to communicate with others. We learn to improve our underlying vocal coordination, to increase vocal colour and impact intentional variety into our vocal communication. Indeed, for 25% of the working population, voice is a critical tool-of-trade (e.g. teachers, lawyers, clergy, telephone salespeople, actors, singers, and business people). Singing exercises the basic voice mechanism and improves its functional capability.

The social benefits relate to:

An enhanced sense of social inclusion Successful singing ability is strongly correlated with a positive sense of social inclusion, of a feeling of belonging to our community. Singing with others enhances the possibilities of empathic relationships with those around us. Collective singing, such as in a choir or small group, generates a positive group identity, as well as physical and psychological benefits.

The musical benefits relate to:

(1) The realisation of our musical potential Singing activity fosters our intellectual engagement with music. This includes an understanding of musical structure, phrasing, the development of musical memory (including repetition and variation) and tone colouring, as well as other musical building blocks (such as pitch, rhythm, loudness).

(2) The creation of an individual musical repertoire (whether as a listener or performer or both) There are concomitant social and personal benefits through increasing the likelihood of empathic understanding of others and ourselves by the kinds of songs (music and text) that we experience, whether alone or in groups.

The educational benefits relate to:

Increasing knowledge, understanding and skills about the world around us, both in music and through music Singing will likely make you more competent in your own language, including an improvement in reading skills. Reading lyrics and reading music are processed in the same neurocortical regions for symbol decoding.

Overall… these combined benefits suggest that singing is one of the most positive forms of human activity, supporting physical, mental and social health, as well as individual development in the same areas.

Singing is important because it builds self-confidence, promotes self-esteem, always engages the emotions, promotes social inclusion, supports social skill development, and enables young people of different ages and abilities to come together successfully to create something special in the arts.
Annex: Puberty and adolescent voice change puberty

The figure above illustrates the reported stages of singing voice change for females and males (Welch, 2006 - based on Gackle, 2000 [females] and Cooksey, 2000 [males]). The onset of puberty heralds fundamental changes to the nature and quality of the singing voice for both sexes. During puberty, the male vocal tract becomes significantly longer and develops a greater circumference. In contrast, the growth of the female vocal tract is less marked, being about 15% to 20% shorter than in the male and with a different internal ratio of resonating spaces. Growth typically lasts from ten to eighteen years in females (and can begin at age seven), compared with twelve to twenty years in males. The highpoint of pubertal voice change tends to be around twelve to fourteen years of age in both females and males. In both sexes, the outcome of voice change is a larger vocal instrument and differences in vocal pitch range. The male speaking voice deepens and a falsetto register is added at the top. The female voice deepens a little, but also the overall range increases in the upper pitch region.

Useful websites:
• Sing Up http://www.sing.org
• International Music Education Research Centre http://www.imerc.org
• National Center for Voice and Speech [USA] http://www.ncvs.org
• Voice Care Network UK http://www.voicecare.org.uk


