

ADOLESCENTS' MUSIC PARTICIPATION AND CHARACTER DEVELOPMENT

The Relation Between Adolescents' Music Activity Participation
and Character Development

by

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Abstract

Positive youth development (PYD) offers an optimistic framework to enhance adolescent development. Proposed PYD outcomes include initiative and agency (Larson, 2000), and positive values termed the Five Cs: confidence, competence, connection, caring, and character (Lerner R. M., Lerner, J., et al., 2005). Previous research indicates that PYD is fostered through extra-curricular activity (ECA) participation in organised, structured settings, including sport and music. The main aim of this research was to explore the association between, principally, adolescents' music participation and their character development. Study 1 measured the music and sport ECAs of 246 first year university students, and their motivations for participation. Results showed that character was predicted by sport involvement and the motivations for music participation. Study 2 investigated the character development and well-being of 470 first year university participants through measures of sport or music experiences, engagement, and personality. Findings revealed that sport and music ECA involvement generally were not strong predictors of character development. However, indices of engagement experienced in sport and music activities were significant predictors, particularly activity enjoyment, even when controlling for personality. Results are discussed with respect to the implications for music ECA participation and PYD.

Key terms: Positive youth development, extracurricular activities, music, sport, engagement, enjoyment, flow, character, flourishing.

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“Look, if you had, one shot, or one opportunity
To seize everything you ever wanted. In one moment
Would you capture it, or just let it slip?”
“Lose Yourself” (Mathers, 2002, track 1)

Traditionally, developmental psychology research has focused on identifying risk and protective factors that can contribute to adolescent psychosocial adjustment, and on preventing negative outcomes such as delinquency, substance use, aggression, and depression (Damon, 2004; Lerner, R. M., & Castellino, 2002). While such research programmes have advanced our knowledge of adolescent development in terms of potential negative outcomes, they have weakened the notion that adolescence is a normal stage of development (Lerner R. M., Dowling, & Anderson, 2003). They have also contributed to a societal view of adolescents as anti-social delinquents who have few, if any, redeeming qualities (Benson, Leffert, Scales, & Blyth, 1998). As part of the growing field of positive psychology, the concept of *positive youth development* (PYD; Seligman & Csikszentmihalyi, 2000) has emerged in recent years in response to earlier deficit-based models. PYD offers an alternative approach to studying and understanding adolescent development, as well as advancing psychological insight and knowledge of adolescence (Rich, 2003).

As a starting point, PYD considers adolescents to be individuals with the capabilities and qualities necessary to become successful members of society and the potential to make substantial, meaningful contributions towards it (Benson et al., 1998; Damon, 2004; Lerner R. M., Almerigi, Theokas, & Lerner J., 2005). Concurrently, human development is considered to be a dynamic process that is influenced profoundly

by the context in which it occurs (Lerner, R. M., Almerigi, et al., 2005). Circumstances are advantageous when adolescent development occurs in conjunction with the necessary supportive elements, such as access to opportunities and resources, to optimise individual potential. This implies that the capabilities of, and expectations for, youth are greater than simply navigating the waters of adolescence without incident; as was summarised succinctly by Pittman and Fleming (1991; Pittman, Irby, Tolman, Yohalem, & Ferber, 2002, p. 6), "problem-free is not fully prepared." PYD also provides the prospect for adolescents to understand that they are not dismissed as worthless, nor regarded solely as a valuable resource for use by society (Lerner, R. M., Lerner, J. V., et al., 2006), but instead, that they are recognised as having the potential to be valuable and resourceful in their own right (Benson, Scales, Hamilton, & Sesma, 2006, Scales & Leffert, 2004, pp. 60-66). Thus, PYD seeks to define and promote specific developmental outcomes related to positive development, in advance of any need for an approach intended to recognise, prevent, or intervene with possible risks. Ultimately, this has the potential to redress the balance with respect to the reputation and perception of youth held by society at large, and to foster the capabilities and potential of youth (Damon, 2004).

In some ways, PYD has become a panacea as it emerged via applied perspectives and practices (Wentworth, 1992) and is now seen as valuable in many different contexts. PYD is acknowledged as the underlying philosophy of use by a range of service workers and organisations, policy makers, and in academic study and research (Benson et al., 2006). In applied practice, the PYD approach guides the creation of positive environments in which all youth can develop optimally (Larson, 2000; Benson et al., 2006; Roth & Brooks-Gunn, 2003a). From the perspective of psychological research,

using a PYD theoretical approach involves investigating which factors predict or enhance positive outcomes throughout adolescence, with a primary interest in the environmental context in which development occurs. In practice, youth programmes and extra-curricular activities have been used as settings in which to investigate the existence, continuity and outcomes of PYD (Catalano, Berglund, Ryan, Lonczak, & Hawkins, 2004; Larson, 2000; Lerner, R. M., Lerner, J., et al., 2005; Urban, Lewin-Bizan, & Lerner, R. M., 2009).

As a relatively new approach for developmental psychology research, PYD has yet to acquire a standard definition or lexicon which establishes positive factors as more than the absence of harm or failure (Lerner, R. M., Lerner J. V., et al., 2006; Lerner, J., Phelps, Forman, & Bowers, 2009). Proposed definitions tend to be set within the context of the research perspectives, questions, or findings that were used to create them, although there seems to be general consensus regarding the move away from problem identification, prevention, or intervention. For example, Benson and colleagues (e.g., Benson et al., 1998; Scales & Leffert, 2004) have emphasised the importance of environmental and personal resources, termed *developmental assets*; work by R. M. Lerner and colleagues has investigated the manifestation and stability of PYD characteristics (Lerner, R. M., Lerner J., et al., 2005); and Larson (2000) has highlighted the potential for adolescents to develop enduring characteristics such as initiative and agency when involved in activities which are engaging and intrinsically motivating over time.

Various criteria have been used to identify positive characteristics and outcomes of PYD. Catalano et al. (2004), for example, listed 15 objectives that could be realised

through participation in positive youth development programmes, including a positive sense of identity, belief in the future, and competence in social, emotional, cognitive, behavioural, and moral domains. R. M. Lerner and colleagues named the collective *Five Cs*, which summarise the component attributes that PYD may foster in adolescents (Lerner, R. M., 2011; Lerner, R. M., Lerner, J., et al., 2005; Roth & Brooks-Gunn, 2003a; Roth & Brooks-Gunn, 2003b). The Five Cs stand for and incorporate the following: *competence*, within social, cognitive, academic, vocational domains; *confidence*, with respect to a sense of positive identity and self-worth; *character*, which is indicated by a set of positive personal and behavioural values and respect towards societal diversity; *connection*, through reciprocal relationships with family, peers, school and the community; and *caring* which is exemplified by comprehension and expressions of sympathy and empathy towards others (Lerner, R. M., Lerner, J., et al., 2005). Subsequently, a sixth C, *contribution*, was proposed which represents the amalgamation of development across the Five Cs, so that individuals are able to contribute positively towards society, their community, their family, and themselves (Lerner, R. M., 2011; Lerner, R. M., et al., 2003).

Larson (2000) has also suggested that while specific outcomes are valuable in and of themselves, continued and lasting change may have to occur at an organismic level for adolescents to develop qualities characteristic of PYD. Academic and unstructured social environments can offer some of the necessary elements, but youth involvement in extra-curricular activities (ECAs) which are structured, adult-led and voluntary, and which offer youth a chance to participate in decision making and activity planning, have been shown to enhance positive developmental outcomes (Catalano et al., 2004; Roth &

Brooks-Gunn, 2003a). These include skills related to aspects of personal development, such as identity and initiative, as well as areas of interpersonal development including teamwork, co-operation, and connection with others (Hansen et al., 2003; Larson, 2000).

While, from an applied perspective, PYD may help youth make a successful transition through adolescence, from the perspective of psychological research, PYD also presents an opportunity to identify environments and individual characteristics which will contribute in a positive way to adolescent development. Earlier longitudinal research has looked at the broad model of PYD in terms of the associations between various settings, contexts and outcomes (Eccles & Gootman, 2002, pp. 86-118; Lerner, R. M., Lerner, J., et al., 2005). Although previous studies have identified some of the facilitative features of environments and programmes, the processes by which these promote PYD outcomes have remained largely unexplored (Hansen et al., 2003; Larson, 2000). Ultimately, research which moves society's view of adolescents away from possible negatives requiring prevention or intervention and towards the endorsement of adolescents' positive potential will contribute to a beneficial understanding of this stage of development.

The purpose of the present research was to examine the links between two specific ECAs, sports and music, and one aspect of PYD, namely the C of character. However, rather than using only the factors of personal values, social conscience, values diversity, and interpersonal skills, proposed by Lerner, R. M., Lerner, J., et al. (2005) to define character, the research also considered alternative measures. This was, in part, because character has been defined in many ways, ranging from bases in personality, to morality, to cross-cultural values and qualities (Fleeson, Furr, Jayawickreme, Meindl, & Helzer, 2014; Seligman & Csikszentmihalyi, 2000; Smetana & Turiel, 2003).

Furthermore, adolescence is recognised as a period of change and learning through interaction with familial, educational, and social contexts, acknowledged by PYD in its theoretical foundation (Lerner, R. M., 1991). This may bring a variety of influences and expectations to bear on character development (Hudd, 2010; Smetana & Turiel, 2003).

Although previous research has identified the Five Cs, and has established various contexts which support their development in youth, the manner by which this occurs remains largely un-investigated and unknown. Therefore, the intention of this research was to investigate, in a close-grained way, the factors that may be influential in the mechanism of the PYD model with respect to character.

While both sport and music activities were used in this research, the activity of primary interest was music. Sport is the most commonly chosen ECA activity (Feldman & Matjasko, 2007) with the most research available, detailing its positive impact on aspects of PYD. Nonetheless, participation in music has been reported to bring benefits in terms of personal identity exploration; understanding emotions; opportunities to respond to challenges and appropriate risk-taking through public performance; development of life-skills and character; and increased social skills through connections with peers and adult leaders (Barrett & Bond, 2015; Barrett & Smigiel, 2007; Campbell, Connell, & Beegle, 2007; Ter Bogt, Mulder, Raaijmakers, & Gabhainn, 2010).

Additionally, individual differences imply that sport may not be universally attractive to every adolescent, while others are able to enjoy a range of activities (Feldman & Matjasko, 2007). However, because music ECAs have not received the same level of research attention as sport, nor recognition of their potential importance in the lives of adolescents (Fredricks et al., 2002), it is important to equalise the

understanding of the potential benefits (and possible pitfalls) of involvement in other ECAs besides sport. Evidence found in support of music activities as a venue for PYD and character development can contribute towards increasing recognition of the benefits and advantages participation could bring.

Hence, extra-curricular sport and music participation were chosen as the settings for this research. These activities are considered to present challenges and demands that may contribute to building character and although research evidence is more plentiful for sport than music ECAs (Fredricks et al., 2002), they have been previously suggested to offer settings which support aspects of positive development for youth (Barber, Eccles, & Stone, 2001; Barrett & Bond, 2015; Eccles, Barber, Stone, & Hunt, 2003). The picture is not entirely consistent, however, as studies have found associations between sport participation and negative behaviours (Barber et al., 2001), and creative arts participation has been found to be negatively related with PYD outcomes (Bundick, 2011). Thus, a need for research into the relation between sport and music ECAs and the PYD C of character is indicated.

What Is an Adolescent?

Before addressing the factors and circumstances that may promote PYD, it is worth considering the developmental course of adolescence and the implications for the adolescent age-group. Adolescence refers to the period that bridges development from childhood to adulthood and is a time of complexity, individual variation, and potential. The complexity is reflected in the many changes that occur, which involve all aspects of the life of the individual; physical, social, emotional, cognitive and behavioural, and perception of identity (Damon, 2004; Forbes & Dahl, 2009).

The contemporary concept of adolescence originated about 100 years ago, although the developmental progression from childhood to adulthood has been considered since ancient times (Feldman, 2008, p. 12). During the last 100 years, the emphasis of psychological research was given to the potential risks, problems, and undesirable outcomes experienced by youth. From a theoretical perspective, adolescents were, and still are, seen as progressing along a path of self-discovery. For example, Erikson's 1963 psychosocial theory (cited in Cobb, 2010, pp 149-150) defines adolescence as the psychosocial crisis of Identity vs. Identity Confusion, during which youth seek a personal identity, marked by personal principles and standards, as well as formulating future plans and aspirations (Petersen & Seligman, 2004, pp.61). This process appears to be both complicated and demanding, involving states of turmoil and instability for many adolescents and, even when traversed relatively smoothly, presents changes and challenges. and does not necessarily result in identity achievement (Arnett, 2010, pp. 10-11; Feldman, 2008, p. 12; Forbes & Dahl, 2009; Kroger, 2007).

Recent research into the physical, emotional, and cognitive changes that occur throughout adolescence and puberty suggests that this period is, indeed, ripe with potential for upheaval, transformation, and adjustment (Blakemore, Burnett, & Dahl, 2010; Dioro & Munro, 2010). However, research findings also propose that there is co-ordination to the timing and pattern of development, albeit subject to wide individual variation in onset, rate of progress, and specific areas of strengths or weaknesses (Feldman, 2008; Luna, Padmanabhan, & O'Hearn, 2010; Spear, 2000). Furthermore, research is now providing a clearer picture of the links between the start of puberty and

changes in hormone production, brain structure and alterations in social behaviour (Blakemore et al, 2010; Forbes & Dahl, 2009; Shirtcliff, Dahl, & Pollack, 2009).

However, seen from the perspective of PYD, this period of change can be characterised in a more encouraging light. When adolescents' experimental and risk-taking behaviours are instead construed as inquisitive and inventive, emerging potential can be supported and promoted as individuals navigate change and begin to utilise the new and improved abilities and identities that are now at their disposal (Damon, 2004; Larson, 2000).

Puberty. Puberty is part of the process of adolescent development, and refers to functional changes within the endocrine and reproductive systems, thus preparing youth for the adult role of reproduction. The release of hormones at the onset of puberty brings about physical changes which are, perhaps, the most salient features of adolescence for youth. During this process, the body is prepared for reproduction with the development of primary (relating specifically to reproduction) and secondary sexual characteristics (observable physical features). Such is the awareness of adolescents of this development that their self-assessments of their developmental progress have been found to coincide closely with those of physical and endocrine evaluations, including a modified version of the Tanner (1962) test, the established gold standard of pubertal measurement (Shirtcliff et al., 2009).

Changes to the brain. One of the most important areas for change during adolescence is the brain, which undergoes systematic remodelling and re-tasking. During this time period, two processes occur concurrently which improve the efficiency and capability of the brain. One of these is the process of *myelinisation*, whereby axons of

neurons develop a white, fatty coating, *myelin*, which is understood to increase the speed of transmission of nerve impulses (Blakemore et al., 2010; Feldman, 2008). Due to its appearance, myelinated neurons are known as *white matter*. Studies using MRI scans have revealed that white matter development and growth proceeds from the front areas of the brain towards the back, and these increases occur at a linear rate (Blakemore et al., 2010; Giedd et al., 1999; Giedd, 2004; National Institute of Mental Health [NIMH], 2002).

The second process involves the *grey matter*, also named for its appearance, which contains non-myelinated axons, dendrites and cell bodies of neurons, along with glial cells and capillaries (Blakemore et al, 2010). In the last decade, partly due to advances in medical imaging technology, research has found that adolescence also involves a period of extensive overgrowth and subsequent remodelling of grey matter (NIMH, 2002). Prior to this research, it was believed that most brain growth occurred until about 18 months of age and that this was followed by a single period of *synaptic pruning*. Pruning is the process whereby rarely used neurons and synapses are destroyed, whereas frequently used neurons are maintained and augmented (Giedd et al., 1999; Miller, 2007; Song et al., 2008).

Evidence from longitudinal studies using Magnetic Resonance Imagining (MRI) scans now suggests that, just before the onset of puberty, there is a second wave of growth of grey matter followed by another extensive round of pruning throughout adolescence (Giedd et al., 1999). Variation in the volumetric increase of grey matter and the subsequent pruning is influenced both by the rate of growth and the area of the brain, and moves sequentially from regions at the back of the brain towards the frontal cortex.

Consequently, increases of grey matter development are seen first in the limbic region and parietal lobes, then the temporal lobes, the frontal lobe, and lastly the connection between the frontal lobe and limbic areas (Blakemore et al, 2010; Giedd et al., 1999; NIMH, 2001; Susman & Dorn, 2009). The only exception to this pattern occurs in the occipital lobe which shows a linear rate of development throughout childhood and adolescence (Giedd et al., 1999).

Effects on the Lives of Adolescents. The pubertal influence over the neurological changes described above brings substantial implications for the lives of adolescents (Forbes & Dahl, 2009). The combined disparities of timing and region during brain development, and the influence of increasing reproductive hormones, are thought to account for some of the impulsiveness, sensation-seeking, and greater likelihood of emotional reactions to events, that are characteristic of the teenage years (Blakemore et al, 2010; Forbes & Dahl, 2009; Susman & Dorn, 2009).

Puberty brings changes in behaviours and cognitions, increasing adolescents' motivation to socialise with peers, seek romantic relationships, and particularly for males, to achieve and demonstrate high status (Forbes & Dahl, 2009). The risks associated with such behaviours are reinforced by the early development of the limbic system, which processes emotions and emotional reactions, and the later development of the pre-frontal cortex, which handles planning and effortful restraint (Thompson & Nelson, 2001). This contributes to a *health paradox* of adolescence (Forbes & Dahl, 2009). This contrasts the overall high level of physical health enjoyed by adolescents with the substantial increase in rates of delinquency, risk of injury or death due to accidents, substance abuse, mental

illness, or violence, along with the potential for unwanted pregnancies or criminal involvement (Forbes & Dahl, 2009; Irwin, Burg, & Uhler Cart, 2002).

The combination of physical growth along with *synaptogenesis*, the process of new synapse formation between neurons, and selective *synaptic pruning*, the reduction of the number of neural connections (Helmrich, 2010), is understood to bring improvements in motor capabilities and the ability to develop physical skills, possibly facilitating engagement in physical risk-behaviours (Forbes & Dahl, 2009). However, synaptic pruning may also be implicated in a qualitative decline of skills, knowledge, and actions that are not required or used frequently. This may be associated with the adolescent tendency to reduce the number or breadth of activities or school courses in order to devote more attention to a preferred few (Kahn et al., 2008).

At the same time, adolescent development refines cognitive skills, which contribute towards emerging aspirations and ambitions. They progress in their abilities to plan, problem solve, engage in abstract thought and perspective taking, and increase their independence in decision making. This enhances adolescents' ability to intellectualise, reason, and discuss, which reinforces their desire to engage in socialising with peers, but can also lead to conflict with parents and authority figures (Forbes & Dahl, 2009; Miller, 2007; van den Bos, van Dijk, Westenberg, Rombouts, & Crone, 2011).

This expansion in thought and experience is contradicted, somewhat, by the requirement within education to start to concentrate on a narrower range of subjects, which is also reflected in a typical reduction in ECA participation (Kahn et al., 2008). The reduction in breadth is a cause for concern among some researchers and educators, who see excessively restrictive school programmes and concentration on academic

success as threats to qualities such as creativity, individuality, and initiative (Larson, 2000; Trotman, 2008). As a counter-balance to this, adolescents' developing improvements in physical and cognitive capabilities prompt curiosity and motivation to discover the social world (Forbes & Dahl, 2009). This includes personally challenging processes such as the exploration of identity, which can range from seeking and planning for future careers to understanding individual emotions, motivations and preferences (Kroger, 2007; Schmitt-Rodermund & Vondracek, 1998).

Youth Perceptions of Adolescence. In seeking their way and learning to use new abilities, adolescents time-use tends to change, with almost half of their discretionary time being unallocated (Larson & Seepersad, 2003). Peers become increasingly important (Collins & Steinberg, 2008) as adolescents prefer the company of their friends over that of family (Larson & Seepersad, 2003; Larson & Verma, 1999). In recent years, adolescents have also been able to use personal communication technologies to contact friends, superseding the need to be in physical proximity. Connecting with peers can occupy substantial portions of the day (Moscovitch, 2007; Scantlin, 2009) and is more typically done by females. Males, however, spend greater time playing computer-based games, which may contribute towards social isolation (Scantlin, 2009).

Although this change in time-use may increase, improve and deepen adolescents' friendships and social connections, greater free-time is also seen as a contributing factor towards the development of risk behaviours, especially when activities lack challenge, engagement, structure, and/or leadership (Mahoney, Larson, Eccles, & Lord, 2005; Mancini & Huebner, 2003). This is potentiated when youth are left to their own devices, particularly when parents are working (Irwin, et al, 2002). Furthermore, it is possible that

the detrimental outcomes that result from involvement in risk behaviours can be compounded by the missed opportunities to experience engaging activities and to develop a sense of identity and self-determination.

A lack of engagement and challenge is associated with a common adolescent complaint; that of being bored. However, boredom itself has been proposed as a potential generator of intrinsic motivation, whereby individuals find the experience of tedious circumstances sufficiently aversive that they seek out an alternative (Caldwell, Darling, Payne, & Dowdy, 1999). This situation can be reinforced or rescued by the availability of community resources in which to engage with peers, whether this takes part in structured or unstructured circumstances. Benson et al. (1998) have described the benefits of community facilities for youth development, but the absence of such amenities can lead to youth becoming alienated from their environment and seeking solace through substance abuse (McIntosh, MacDonald, & McKeganey, 2005).

As a countervailing influence to both potential risk behaviours and increased media use, many parents respond by selecting and enrolling their adolescents in youth programmes or extra-curricular activities, or endorsing their continued participation. By providing constructive and supportive environments, such programmes are understood to offer opportunities to thrive through socialisation, skill learning, and positive outcomes in terms of engagement, self-esteem and agency (Dworkin, Larson, & Hansen, 2003; Mancini & Huebner, 2003; Scales, Benson, & Roehlkepartain, 2011). Youth report that they find such activities rewarding when, through trial and error, they are able gain experience in generating, planning, and taking responsibility for their own ideas (Dworkin et al., 2003). Such opportunities contribute towards a sense of autonomy and

competence, and contrast particularly with their daily experiences in school (Larson, 2000).

Positive Youth Development

In recent years, PYD has come to encompass a concept of the development and developmental circumstances of adolescents. Deriving from the advent of positive psychology (Seligman & Csikszentmihalyi, 2000), PYD proposes both a theoretical mechanism and practical applications to foster optimal experiences and potential outcomes for all youth.

Origins of PYD. Wentworth (1992) cites the applied work, from the late 1970s, of Lofquist and colleagues in identifying early uses of the term PYD to describe a grassroots movement among those working with disaffected and delinquent adolescents. Lofquist (cited in Wentworth, 1992), outlined prevention as pre-emptive action intended to foster positive outcomes across domains in peoples' lives, and youth were facilitated to adopt prevention strategies for themselves, thereby supporting individual agency. At the same time many community-based workshops shared the recognition that, while some youth problems originated with individual circumstances, others originated from societal and/or neighbourhood circumstances. This implied the need for community involvement to recognise such situations, devise solutions, and create strategies to resolve them (Wentworth, 1992).

Prior to the definition and description of the PYD model, earlier research studies had investigated the development of qualities similar to the Five Cs, e.g., competence (Masten & Coatsworth, 1998), confidence (Bell Kaplan, 1997), character (Damon & Gregory, 1997), connection (Eccles, Early, Fraser, Belansky, & McCarthy, 1997; Barber

& Olsen, 1997), and caring (Hart, & Fegley, 1995; Perry & McIntire, 1995). However, R. M. Lerner et al. (2003) have stated that such previous research does not equal the findings that result from using a PYD approach because the absence of an overarching, unifying developmental theory implies the introduction of artificial divisions between adolescence, normal development, and the developmental context presented by society (Lerner, R. M. et al., 2003).

Recent views of PYD, as summarised by J. Lerner et al. (2009), have emerged from an amalgam of different interpretations and related themes of research. These include the relationships between positive development and individual strengths through research led by Seligman and colleagues (e.g., Seligman & Csikszentmihalyi, 2000); the value of positive mental health, from work by Keyes (e.g., Keyes, 2007); the effects of a sense of purpose on youth thriving, as described by Damon and colleagues (e.g., Damon, 2004); the preparation by young people for life in the adult world through experiences which promote self-direction and motivation, from work by Larson and colleagues (e.g., Larson 2000); and the relevance of experiences in terms of the anticipation, visibility, and accessibility of future education and career options, investigated by Hamilton and colleagues (e.g., Hamilton & Hamilton, 2004).

Human development does not occur in isolation and J. Lerner et al. (2009) included in their overview research pertaining to the effects of the contexts in which youth development can occur. Highlighted in particular was the connection, through positive experiences, between PYD and the psychological construct of *resilience*, which Werner and colleagues (e.g., Werner, 1995) used to describe a set of personal characteristics whereby youth who live in high risk or developmentally impoverished

situations are able to transcend their circumstances to thrive and succeed; the capacity for plasticity and the development of aspects of competence in response to the societal and developmental environment, from work by Masten (e.g., Masten & Curtis, 2000); and the influence of youth perceptions regarding the outcomes and meanings of the developmental settings and events they experience, as set out by Spencer (e.g., Spencer, Dupree, & Hartmann, 1997) in the *phenomenological variant of ecological systems theory* (PVEST; Lerner J. et al., 2009).

Definitions of Positive Youth Development. Given the variety of disciplines interested in and using PYD, reaching a definition for use in research can be difficult, as can finding a set of descriptors which adequately indicate the presence of positive behaviours and outcomes (Benson et al., 2006). R. M. Lerner (1991) has suggested using, as a starting point, the theoretical perspective of *developmental contextualism*. This describes the dynamic interchange between each individual and the circumstances experienced during childhood and adolescence. This is complemented by the related concept of human *cognitive plasticity*, in which the development of cognitive function is influenced by environmentally-based experiences and learning (Lerner, R. M., 1991). It was recognised that new terminologies would have to be devised in order to express the philosophy of PYD (Lerner R. M. & Castellino, 2002), and which could also differentiate the principles and potential outcomes of PYD from previous approaches by increasing their applicability to real-world situations (Lerner, R. M. et al., 2000).

From this work emerged the proposal that when youth are able to grow in conditions that are advantageous for positive development, individual qualities, summarised as the *Five Cs*, would expand and refine (Lerner, R. M., et al., 2000). In

describing these qualities, R. M. Lerner and colleagues also emphasised the need for, and set-up, a frame-work of vocabulary for use in research concerning PYD (Eccles & Gootman, 2002, pp. 228-264; Lerner, R. M., et al., 2000).

The Five Cs. One of the most important components of PYD is the description of the personal qualities that youth, developing positively within optimum environmental conditions, would demonstrate in their interactions with their community and society in general (Lerner, R. M., et al., 2003). Five such attributes were proposed: a) competence, within the social, cognitive, academic and vocational domains; b) confidence, in terms of holding a positive identity and sense of self-worth; c) character, which would be demonstrated by individuals who hold personal values, have a social conscience, value diversity, and exercise control over their conduct and behaviour; d) connection, existing between the individual and their family, peers, school and community; and e) caring, shown through sympathy and empathy. These qualities are now categorised and referred to collectively as the Five Cs (Lerner, R. M., 2011; Lerner R. M., et al., 2000). In favourable circumstances, when adolescents have acquired some level of the Five Cs, the existence of a sixth C, *contribution*, has also been proposed whereby adolescents give back to their developmental environment (family, peers, school, community and society) through the incorporation of the Five Cs in their actions (Lerner, R. M., 2011; Lerner R. M., et al., 2000).

Previous Research. Assessment of the stability and applicability of the Five Cs model across the span of adolescence, and identification and evaluation of the constancy of the foundational five factors, were among the goals of an on-going longitudinal study sponsored by the 4-H organisation (Floyd, 2010; Lerner, R. M., et al., 2005). 4-H

originated in the United States over 100 years ago, from local agricultural clubs which were founded to foster enthusiastic and innovative interest in farming among youth (4-H, 2012a; United States Department of Agriculture, 2015). Today, 4-H is available across the USA (supported by The National Institute of Food and Agriculture) and internationally, and brings many varied programmes to youth members. Covering three broad themes, Science, Citizenship, and Healthy Living, the programmes reflect the foundations of PYD by encouraging members to define their own progress and experiences, while leaders take supporting roles (4-H, 2012b; 2012c; Floyd, 2010). The 4-Hs of the name illustrate the underlying values of the organisation: "Head - managing, thinking; Heart - relating, caring; Hands - giving, working; and Health - being, living" (4-H, 2012c).

The PYD model proposed and investigated through the 4-H study has so far been found to persist from Grades 5 to 10, although a slight decline has been found around Grade 6 when PYD scores are higher for girls (Phelps, Zimmerman, Warren, Jeličić, von Eye, & Lerner, R. M., 2009), and decreased means for competence, confidence, connection have been reported in Grade 9 (Bowers, Li, Kely, Brittan, Lerner, J., & Lerner, R. M., 2010). As the study has progressed, there has been some modification of the original definitions of the Five Cs, in accordance with research findings and the development and evaluation of the theoretical foundation. For example, the C of competence was originally described as encompassing academic and social competence, as well as school engagement (Lerner, R. M., Lerner, J., et al., 2005). During the second phase of assessment, school engagement was removed as it was not considered to be a

dimension of competence and was replaced with physical competence to broaden the assessment (Phelps et al., 2009).

Owing to the theory-testing nature of the first and second phases of the 4-H study, a diverse selection of items and scales from a variety of measures was used. The authors established reliability in their methods, but this approach does highlight the need for a more detailed look at what PYD actually represents, as well as an examination of the best way to test the five or six proposed components. Additionally, the mechanisms by which the elements of PYD are promoted through extra-curricular activity (ECA) participation have yet to be explored (Barber, Abbot, Blomfield, & Eccles, 2009; Larson, 2000).

PYD and ECA research. Adolescents' ECAs are considered to offer contexts in which PYD outcomes can be fostered. In practice, however, it may be challenging to isolate the specific origins of the Five Cs when discussing the contexts of ECA participation, particularly as youth often combine several types of activity into their extra-curricular repertoire (Feldman & Matjasko, 2007). For example, activity participation has been positively associated with academic and employment achievement, as well as the development of initiative and agency, all of which can be related to the C of competence (Barber et al., 2009; Dutton, 2011; Gardner, Roth, & Brooks-Gunn, 2008; Larson, 2000). Sport and art activity participation has also been positively related to self-esteem (Bowker, 2006) and identity development (Busseri, Costain, Campbell, Rose-Krasnor, & Evans, 2011; Eccles et al., 2003; Wexler, Gubrium, Griffin, & DiFulvio, 2013), factors of the C of confidence. Arts activity participation has been reported to relate to elements of the C of Caring (Larson, Hansen, & Moneta, 2006). Attachment to family and institutions has been identified as a protective factor against risk behaviours

(Mancini & Huebner, 2003); and activity involvement presents opportunities for new friendships (Barber et al., 2009; Dworkin et al., 2003), reflecting the C of connection. However, the C of character seems to be the least explored. Although character building is considered, particularly by parents, as a desirable outcome of extra-curricular activity involvement (Roth & Brooks-Gunn, 2003b), this factor of the Five Cs has received less specific research attention.

The C of Character

The word character originates from Greek, and means to scratch, stamp or mark (Moody-Adams 1990, Wynne & Hess, 1992). Definitions of character in psychology vary in breadth and detail (Fleeson et al., 2014), and even those involved in promoting character, such as sports coaches, can struggle to define it, opting instead for an approach of recognising character when they encounter it, and using nebulous terms to describe its manifestation in youth (Davidson & Moran-Miller, 2005). As a psychological construct, character is difficult to define because any attempt to do so raises issues of culture and ideology, bringing questions about which qualities should be included, how they should be identified, and the best way to measure them (Dahlsgaard, Peterson, Seligman, 2005). Perceptions of character can also depend upon the viewpoint of the observer, particularly if this occurs cross-culturally or cross-generationally. Consequently, psychologists have also met challenges in depicting and researching character development throughout the 20th and 21st Centuries (Fleeson, et al., 2014; Hogan, 1975; Park, 2004).

Theories and Definitions of Character. Previous theory development and research studies have not used a consistent set of criteria for character and character development. Instead, the bases for the definition of character have evolved in keeping

with prevailing societal perspectives and with respect to the relevant theoretical basis underlying each research study. Thus, definitions, theory and research will be described in conjunction.

Theories of moral development. Forty years ago, definitions of character concentrated on moral character, based on an individual's acceptance and adherence to societal rules (Hogan, 1975.) For example, using a developmental perspective, Piaget's theories of moral learning through games and rules reflected his earlier work on the accommodation and assimilation of knowledge frameworks (Siegler & Alibali, 2005, p. 30-31; Turiel, 2008). Each of these starts out as a rigid construct held by the individual but, through experiences and learning, tends to increase in flexibility to encompass the complexities of society and life. Through a similar process, individuals were believed to create their own framework of moral codes, which were also confluent with those of society (Turiel, 2008).

In the late 1960s and early 1970s Kohlberg outlined a six-stage theory of moral development, which provided a more definitive description of the processes involved and determined that moral development occurred during adolescence rather than later childhood, as had been suggested by Piaget (Turiel, 2008). Kohlberg posed a series of hypothetical moral problems to small sample groups of boys aged between 10 and 16 years, to investigate their responses. From this research, Kohlberg described the progression of moral development through three levels. The first level, *preconventional moral reasoning*, suggested young children are motivated by their individual interest but are restrained by the fear of consequences (*punishment orientation*) and, subsequently, by the thought of future reward (*instrumental hedonism orientation*). The second level,

occurring between 10 to 13 years of age and termed *conventional moral reasoning*, was attained when an individual was motivated to appear to others to be a 'good' person (*good girl/boy orientation*), and later by observance of society's rules (*law and order orientation*). The incorporation of the opinion of others reflects a wider awareness of the implications of personal actions. It has been noted that many people remain at this level of moral thinking throughout adulthood (Dolgin, 2011, p. 179; Smetana & Turiel, 2003). The third level, *postconventional or principled moral reasoning*, indicates moral thinking that has moved beyond considerations of individual need or external opinions towards an acceptance of principles that serve the wellbeing of all in society (*social contract orientation*) and, finally, by beliefs in a universal justice, even if these sometimes contravene the rules of society (*universal principled reasoning*) (Dolgin, 2011, p. 180). Although Kohlberg described moral development as occurring in response to conditions imposed external to the individual, it is now accepted that children and adolescents are active participants by virtue of their developing cognitive abilities (Dolgin, 2011, p. 180) and their connections with family, friends and society at large (Turiel, 2008).

In response to criticism of this theory, further research by Kohlberg and others indicated that similar processes of moral development are seen universally, but social and cultural contexts also play a role in motivations and incorporating alternative viewpoints. Circumstances where there are lower levels of formal education or limited experience in social interaction are less likely to foster breadth in understanding others' perspectives, and this is considered to be less conducive to the development of principled moral reasoning. Additionally, while some stages are not achieved because they are not

applicable to cultural contexts, this does not imply a lower level of moral competency (Dolgin, 2011, p. 181).

Irrespective of the range of societal experience, individuals do not always provide consistent responses over time, thus weakening the validity of the stage model. Lower level prosocial moral reasoning has been reported in late adolescence, contrasting with an earlier peak during middle adolescence, and the context and type of moral judgement are also both influential factors (Smetana & Turiel, 2003).

Ethic of Care Theory. Gilligan (1982) proposed that gender differences were evident in moral development, whereby females demonstrate a *care orientation*, emphasising responsibility towards others and a sense of inter-reliance between individuals, rather than the *justice orientation* shown by males. Later research has suggested that such differences are more evident when describing actions within concrete situations rather than the abstract examples used in Kohlberg's research (Arnett, 2010, p. 115). Other generators for the development of moral character have been considered, including the role of parents (Dolgin, 2011, p. 185) and the capacity for empathy (Eisenberg-Berg & Mussen, 1978).

Social-cognitive domain approach to moral reasoning. Recent theories regarding moral development have reflected the contribution of interactions between peers and family members. This involves learning through co-operation and negotiation, while maintaining a position of principle. As adolescents typically grow and mature within a family structure, the influence of the dynamic relationships and interactions involved has been recognised as part of the social-cognitive domain approach to moral reasoning (Dweck & Leggett, 1988). Social-cognitive theory, developed by Bandura

(1989), states that children and adolescents learn through a combination of the observation of others, by experiencing the responses of others, and through the evaluation of their own situation vis à vis particular goals or intentions. The social-cognitive approach acknowledges individual differences in terms of a performance or mastery orientation (Ames & Archer, 1988) which, in this context, distinguishes the desire to appear morally competent or to learn through facing morally challenging situations, respectively (Dweck & Leggett, 1988).

Moral reasoning can, therefore, be considered as part of the concept of social knowledge held by adolescents, and contentious issues may fall into one of three general categories: *moral rules*, e.g., acceptable ways for people to interact; *social conventions*, e.g., ways of behaving which are expected and understood within groups; or *personal preferences*, e.g., dictated by individual choice (Dolgin, 2011, pp. 183-184). Parental guidance and control is not typically challenged over moral rules. However, adolescents and parents have been found to differ in their perceptions of appropriate control. Adolescents tend to view personal preferences as within their own sphere of influence and they become increasingly likely to challenge social conventions (Dolgin, 2011, pp. 183-184; Smetana, 1988).

While theoretical understandings of moral development and attributes have been proposed, further research has found that moral judgements were not as solidly formed as had been suggested. For example, moral development in adolescents did not progress sequentially, but fluctuated between levels so that pro-social moral reasoning was used more frequently in late adolescence than mid adolescence (Dolgin, 2011, p. 181). At the same time, older adolescents increasingly employed self-reflection and internalised

reasoning (Smetana & Turiel, 2003). Additionally, as described in social cognition theory, moral judgements were found to be context and culture dependent, so that they were influenced by the nature of the situation and the characteristics of other individuals involved (Smetana & Turiel, 2003).

Moral development and behaviour. However, reconciling the apparent disconnection between morals, seen as a set of principles and rules (Hogan, 1975), and character, seen as a set of behaviours (Wynne & Hess, 1987) became increasingly problematic. Concern arose in response to perceptions of a societal decline in conduct, which was taken to be indicative of a similar decline in the moral foundations of good character. Thus, with definitions that equated character and conduct, good behaviour came to be seen as a better indicator of good moral character, and more tangible than using a presumed set of moral beliefs to guide good behaviour (Wynne & Hess, 1987). Efforts to address this disparity led to intervention programmes (Wynne & Hess, 1987) and for calls to establish character education in schools (Kessler, Ibrahim & Khan, 1986; Power, 1997).

Character education. The discrepancy between the theoretical approach to moral development and perceptions of behaviour underlies the current enthusiasm for character development to be part of school curricula in the United States and to some extent Canada. However, definitions of character and approaches on which to base character education range from moral aspects to behavioural factors (Likona, 1999; Power, 1997). For example, the Ontario Ministry for Education (2012, para. 1) has described character development as the “deliberate effort to nurture the universal attributes upon which schools and communities find consensus”. Thus, while character

development is seen to rest on themes of diversity, academic achievement, citizenship, and partnerships with parents and communities (Ontario Ministry for Education, 2008), a definition of character itself often remains unspecified.

Nonetheless, character education programmes are established with the general aim of inculcating notions of right and wrong. Such programmes also offer youth opportunities to explore difficult and ambiguous questions concerning judgements about behaviour and responsibility towards themselves and others, and to establish this practice as part of everyday life. In this way, character education seeks to bridge the gap between moral judgement and moral action, as well as establishing life skills that will serve youth in the education system and in the community at large (Likona, 1999; Ontario Ministry for Education, 2008; Power, 1997).

Definitions of Character Through Character Education. Character education programmes have prompted the development of measures of assessment, which in turn require formulations of definitions of character. As the first of two examples, Powell, Stern, Krohn, & Ardoin (2011), in an evaluation of an environmental education programme which paralleled the PYD approach, created a scale to measure concepts of character development and leadership. Character development was defined as empowerment of the individual to exercise influence over their own future, so that participants would be aware their choices could bring change in positive ways; and leadership was seen as the ability to care about and communicate with others, while taking responsibility for one's own actions. As a second example, the *Collective Responsibility for Excellence and Ethics (CREE)* measure derives from the Smart and Good Schools approach to education (Khmelkov & Davidson, 2009), which defines

character as having two aspects. The first, *performance character*, relates to a mastery orientation (Ames & Archer, 1988) and includes factors such as persistence, optimism and self-control. The second, *moral character*, features attributes that promote positive relationships with others through principled behaviours and consideration of others. The incorporation of these in everyday life is proposed to enhance educational success, but this also needs to be fostered in a learning environment which gives attention to the development of such qualities (Khmelkov & Davidson, 2009).

The development of character as an educational component and educational goal has continued over the last 10 years through organisations such as the Character Lab, based in New York. This conceptualisation identifies a growing list of components of character such as *curiosity, gratitude, grit, growth mindset, optimism, purpose, self-control, social/emotional intelligence, and zest*. Ongoing research projects are intended to further investigate the role of these components as supports and outcomes of education (Character Lab, 2015).

However, this illustrates some of the difficulties of establishing what character encompasses and what might predict it, or be predicted by it. An example is grit (Duckworth, Peterson, Matthews, & Kelly, 2007), which is considered to combine factors of perseverance and interest, and has been identified as an influential factor in academic and personal achievement (see Tough, 2012). Grit is included in Character Lab's definition of character but is also seen as predictive of character and is, itself, predicted by another proposed component of character, *purpose* (Character Lab, 2015; Hill, Burrow, & Bronk, 2014).

Classifying Character Through Research. The progress of research into character, and the diverse uses of the concept of it, has prompted other classifications.

Personality based perspective. Fleeson et al (2014) suggest that character can be seen as a manifestation of personality (the first category) or as an evaluation of personality. Within this latter structure, they situate five further categories of character, based on moral or behavioural foundations or combinations thereof: *personal strengths*, *social conformity*, *social deviation*, and *moral evaluation*, which encompasses two further subgroups: *degree of morality*, and *ability to implement morals*. In detailing this structure, the authors also outline an approach to future character research, focusing on the category of moral evaluation, and using personality as a foundational starting point. From there, research would evaluate character across domains and situations, to understand the role of individual differences and situations that are involved in the process of character development (Fleeson et al., 2014).

Values in Action perspective. During the 2000s, a perspective of character, the Values In Action (VIA) Classification of Character Virtues and Strengths, was developed by Petersen & Seligman (2004) with the purpose of accomplishing several tasks. The first of these was to address the absence of a lexicon of success and wellbeing to represent PYD. Hitherto, psychology had developed a full vocabulary for detrimental outcomes, potential problems and interventions, but lacked the terminology to describe typical, but valuable, accomplishment by youth (Dahlsgaard et al., 2005; Park, Peterson, & Seligman, 2006; Steen, Kachorek, & Peterson, 2003).

Second, in order to develop a comprehensive description of character, the most frequently identified components were outlined (Dahlsgaard et al., 2005). This

highlighted the importance of considering character as a broad range of principles and behaviours, emphasising that strengths in one or two areas alone did not necessarily constitute character, and also that individuals could have varying levels of strengths within their character profile (Park, 2004). Character was defined as "the entire set of positive traits that have merged across cultures and throughout history as important for good life" (Park, 2004). Six overarching moral and philosophical *virtues* were identified as common to diverse religions and cultures: *wisdom and knowledge, courage, humanity, justice, temperance, and transcendence* (Dahlsgaard et al., 2005; Steen et al., 2003). Biological bases, through individual differences in temperament, were also proposed as underlying and influencing the emergence and preservation of these virtues (Park, 2004). In this schema, the virtues are realised by 24 *character strengths*, as the tangible behaviours that signal and express the presence of the relevant virtue. For example, the virtue of courage would manifest as actions recognisable as valour; industry and perseverance; integrity, honesty and authenticity; and zest and enthusiasm. (See Table 1 for the full list of virtues and character strengths.)

Table 1

The VIA Classification of Character Virtues and Strengths

Wisdom and knowledge
Curiosity/interest
Love of learning
Judgment/critical thinking/open-mindedness
Practical intelligence/creativity/originality/ingenuity
Perspective
Courage
Valor
Industry/perseverance
Integrity/honest/authenticity
Zest/enthusiasm
Humanity
Intimacy
Kindness/generosity/nurturance
Social intelligence/personal intelligence/emotional intelligence
Justice
Citizenship/duty/loyalty/teamwork
Equity/fairness
Leadership

Temperance

Forgiveness/mercy

Modesty/humility

Prudence/caution

Self-control/self-regulation

Transcendence

Awe/wonder/appreciation of beauty and excellence

Gratitude

Hope/optimism/future-mindedness

Playfulness/humour

Spirituality/sense of purpose/faith/religiousness

(Adapted from Steen et al., 2003)

Third, the VIA classification provided a starting point for the development of a measure to assess the existence and structure of character strengths in PYD and other contexts. The self-report measure, *Values in Action - Inventory of Strengths* (VIA-IS; Park & Peterson, 2006), consists of 240 statements and offers a range of applicable responses across a five-point Likert scale. Each of the 24 VIA-defined strengths is tested over 10 questions and is represented by a mean score (Park & Peterson, 2006). The VIA-IS results are intended to provide a representation of individuals' character strengths, indicating which are more or less prevalent (Park & Peterson, 2006).

Positive youth development perspective. In keeping with the orientation of PYD as an interactive process between adolescents and the social environment, psychologists have sought to identify components of character and describe their development. Arguably, more of this research has progressed within applied settings than had been the case for earlier theoretical discussions, and it has been allied with the creation of measures to assess character. One such framework is that of the forty *developmental assets*, proposed by researchers at the Search Institute (Benson et al., 1998). This set of environmental (the *external assets*) and individual (the *internal assets*) resources was drawn from work using the *Profiles of Student Life: Attitudes and Behaviors Survey* (Benson et al., 1998), also generated by the Search Institute. Character is defined therein as comprising the *positive values assets* within the internal assets: *caring, equality and social justice, integrity, honesty, responsibility, and restraint* (Benson et al., 1998; Scales & Leffert, 2004, pp. 151).

Character and PYD research. The Search Institute's definition of character was used in the 4-H PYD study and is therefore closely associated with that conceptualisation

of PYD (Lerner, R. M., Lerner, J., et al., 2005). For the first phase of the 4-H study, character was assessed using the *Profiles of Student Life: Attitudes and Behaviors Survey* and was defined as demonstrating *personal values, social conscience, valuation of diversity, interpersonal values and skills* (Lerner, R. M., Lerner, J., et al., 2005). This was revised for the next phase of the study to increase validity, to more closely reflect the understanding of character, and for parsimony. Thus, *interpersonal skills* was deemed to be more representative of social competence and was removed, while *behavioural conduct* was added. Character was then defined as *respect for societal and cultural rules, possession of standards for correct behaviours, a sense of right and wrong (morality), and integrity* (Phelps et al., 2009). This concept of character was assessed by a combination of items from the *Profiles of Student Life: Attitudes and Behaviors Survey* (Benson et al., 1998) and from the *Self-Perception Profile for Children* (Harter, 1982, 1983).

Although character is included in the concept of PYD, the delineation of the facets of character, which may reflect individual differences (Park, 2004), have been described sparsely in the 4-H studies. In fact, the expected findings of character were not mentioned *a priori* in the first of this series of studies (Lerner, R. M., Lerner, J., et al., 2005). Similarly, the success and implications of character development with respect to PYD have received little attention in these studies. For instance, various protocols for explicitly teaching character have been proposed and used in education (Character Lab, 2015; Khmelkov & Davidson, 2009; Likona, 1999), but the specific mechanisms of character development are less clear in ECAs settings.

ECA contexts have the potential for dynamic influence, particularly when involving youth, but their influence may vary between types of involvement; a youth programme in contrast with a sports team or orchestra, for example. Therefore, this area of PYD is due for further exploration in order to establish the ways that character development corresponds with other developmental changes.

Character and Well-being. Living a life of good character has long been associated with a sense of well-being (Fleeson et al., 2014; Likona, 1999). Research by Gillham et al. (2011) has built on previous findings that suggest that qualities such as optimism and self-regulation promote positive outcomes for adolescents (Larson et al., 2006; Schmid, Phelps, Kiely, Napolitano, Boyd, & R. M. Lerner, 2011), and has found that strengths within the virtue of temperance are associated with adolescent wellbeing. Additionally, strengths which represent consideration of others, such as kindness, predicted fewer symptoms of depression and this relationship was partially mediated by social support (Gillham et al., 2011). Similarly, the strengths of curiosity, hope, love, and zest from the VIA classification of character were found to be associated with life satisfaction (Peterson, Ruch, Beermann, Park, & Seligman, 2007).

Overall, it can be seen that a complete definition of character remains elusive while researchers, educators, psychologists and youth workers continue to address it from a range of starting points and perspectives, and with a variety of underlying philosophies. However, although there are many iterations of character definitions and components, there appears to be some concordance that the components of character include: self-control; the practice of awareness and concern for others; integrity and willingness to stand up for personal or societal beliefs; awareness of right and wrong; manifestations of

perseverance and self-determination, and an indication of wisdom and the recognition of wonder.

In relation to ECA participation in sport and music, it can be argued that both activities present opportunities for youth to meet challenges through which they can explore and test their own sense of character. In sport, for example, this may mean deciding not to yield to an opponent's tackle, and in music it may mean deciding to practice a section until it has been mastered.

The relation between sport and music ECA participation and character was investigated over the two studies in the present research, with the aim of exploring the ways in which the two ECA contexts might foster character development. In Study 1, the VIA-IS measure (Petersen & Seligman, 2004, pp. 627-633) was used, in order to investigate specific elements of character in relation to ECA sport and music participation. In Study 2, a broader approach to the measurement of character was taken, using the PYD definition of character (Geldhof, et al., 2013); plus, measures of grit (Duckworth & Quinn, 2009), and problem solving, honesty and trustworthiness, and emotional stability (Marsh, 1992). Additionally, associations between ECA participation and well-being were also explored in this research, represented by self-esteem (Marsh, 1992) in Study 1, and flourishing (Diener et al., 2010) in Study 2.

Contexts for Positive Youth Development

The contexts within which development occurs are considered to be highly influential and include conditions within families, schools, and neighbourhoods, in an evocation of Bronfenbrenner's ecological model (Bronfenbrenner, 1979). Described as external assets, resources based in the community are considered to hold the greatest

potential to support PYD; while internal assets, personal capabilities residing within youth, are seen as influential resources for individual positive youth and character development (Benson et al., 1998; Scales & Leffert, 2004, pp. 1-4). Where there is sufficient access and an alliance between the needs of the individual and the resources within their environment, research suggests that adolescents are more likely to be able to follow a trajectory of positive development, moulded through the dynamic interactions between individual and environment (Benson et al., 1998). However, this proposed relationship also invokes the complex interplay of developmental contextualism (Lerner, R. M., 1991), between factors such as neighbourhood resources, socio-economic status (SES), gender, and the individual. In this regard, youth development programmes and extra-curricular activity programmes have been considered as settings which hold potential opportunities to promote PYD (Barber et al., 2009; Catalano et al., 2004; Larson, 2000).

Research by Urban et al. (2009) has found complexity in the pattern of responses with respect to the availability of developmental assets and level of activity involvement. While girls in neighbourhoods with few developmental assets responded positively to activity involvement, girls in high asset neighbourhoods were more likely to engage in risk behaviours, possibly indicative of the over-scheduling hypothesis (see Mahoney, Harris, & Eccles, 2006). Boys demonstrated the converse pattern, so that in neighbourhoods with higher levels of developmental assets, their activity involvement was associated with beneficial outcomes but PYD decreased and risk behaviours increased where there was high activity involvement in areas with few human resources (e.g. mentors) and developmental assets. In addition to indicating that the role of

neighbourhood assets, activity involvement, and PYD requires further research, these findings also suggest that programme participation outcomes should also be considered within the context of gender (Urban et al., 2009).

Youth development programmes. The availability of youth development programmes is included in the category of external developmental assets (Benson et al., 1998), but the characteristics of programmes have also been the subject of considerable separate research attention in terms of their quality and content. Research by Roth and Brooks-Gunn (2003a) has identified three elements found in programmes that can be described as supporting positive development: a) program goals, i.e., goals which serve to channel the experiences and atmosphere towards building connections, skills, and competencies, while avoiding high-risk situations and behaviours; b) atmosphere, i.e., an ambience which reflects expectations of youth capabilities and of appropriate behaviour; and c) activities, i.e., endeavours which provide new experiences involving genuine challenge and the promotion of social competence (Roth & Brooks-Gunn, 2003a). Out of these three, settings which promoted adolescents' use of leadership, initiative, and decision-making abilities were found to foster the most opportunities for PYD (Roth & Brooks-Gunn, 2003b). Among the indicators of potential outcomes are changes in language, whereby adolescents illustrate their developing competence and initiative by incorporating the vocabulary of possibilities; tactics to gain information; and the perspectives of other individuals and groups about their interactions and activities (Larson, 2000).

The role of programme leaders as part of programme design is another influential factor in terms of PYD outcomes. Larson, Walker, & Pearce (2005) explored the factors

which differentiated adult-led and youth-led programmes and found that where adults have a greater leadership role, adolescents gained programme-related knowledge and were facilitated in exploring their own capabilities and talents. In the youth-led programmes, youth reported a strong sense of ownership, leadership, and empowerment, which they were also able to extend into other areas of their lives. However, the role of the adults was an important mechanism for support, guidance, the anticipation of problems, and in maintaining momentum in the project when adolescents were unwilling or unable to accomplish this themselves (Larson et al., 2005).

Extra-Curricular Activities. Extra-curricular activities (ECAs) and youth development programmes both fall under the remit of PYD but they feature different programme elements. From the youth development programmes described in US research, there appears to be an emphasis on building a range of personal skills, from social, moral, and life competencies to agency and self-determination, through the abilities of self-control, interpersonal connection, and planning (Larson, 2011). The concomitant diversion of risk behaviours and other potential vulnerabilities is also an integral feature (Catalano et al., 2004; Roth & Brooks-Gunn, 2003a).

Extra-curricular activities involve organised activities which feature varying levels of adult leadership and in which participation is voluntary (Mahoney, et al., 2005). They can encompass sports, arts, clubs, and groups, such as Scouts and Guides, or volunteer work. Generally, sports are the most frequent option for adolescents, followed by arts activities (Larson & Verma, 1999). A blend of activities is common, with sports and arts being the most typical combination (Feldman & Matjasko, 2007), and combined

activities have been found to bring greater benefits than sports alone (Linver, Roth, & Brooks-Gunn, 2009).

Extra-curricular activity participation has been considered by parents as a valuable opportunity for children and adolescents to gain additional experience in social skills and opportunities, make new friends, improve and maintain physical fitness and develop activity specific skills, while also offering a distraction and limiting time for access to behaviours which would be considered less desirable (Fredricks et al., 2002). Many activities are seen as being character building and as providing opportunities for leadership skills and team co-operation (Roth & Brooks-Gunn, 2003b, Larson 2000). As well as being a venue to promote emotional growth and maturity, activity participation is also associated with lower levels of risk behaviour and other school-failure problems (Barber et al., 2009; Mahoney, et al., 2005; Mancini & Huebner, 2003).

Participation in ECAs has been associated with beneficial outcomes including greater connections to peers, adults and educational institutions; academic achievement; personal development in terms of body image and self-esteem; and an overall sense of wellbeing (Barber, et al., 2009; Sharp, 2010). Although the benefits of activity are generally acknowledged, concerns have been expressed by some psychologists with respect to parental pressure to participate which can lead to over-scheduling (Zarrett, Lerner, Carrano, Fay, Peltz, & Li, 2008), although these have generally been dismissed (Mahoney, Harris, & Eccles, 2006). Others argue that the emphasis given to academic and success orientated outcomes is misplaced and that unstructured activities represent valuable opportunities for individual exploration, reflection, imagination, playfulness, creativity, and self-direction (Schmitt-Rodermund & Vondracek, 1998; Trotman, 2008).

Music as an extra-curricular activity. Although estimates about the proportion of participation vary, and sports represents the bulk of ECA involvement, music is also a popular option (Eccles & Barber, 1999; Larson et al., 2006). In their initial choice of music as an ECA, parents tend to be guided less by their opinions of their children's abilities and more by their own enthusiasm and expectations for its potential to support their children's general education (Dai & Schader, 2002; Denny, 2007). Continued participation in music appears to support many aspects of adolescent development including identity-exploration, personal and career goals, agency and self-determination (Denny, 2007; Hallam, 2010; Koutsoupidou & Hargreaves, 2009; Schmitt-Rodermund, & Vondracek, 1998). Additionally, such activities may help to counteract the boredom and loss of imaginative and creative thinking that youth report in school and as they progress through adolescence (Eastwood, Cavaliere, Fahlman, & Eastwood, 2006; Larson, 2000; Larson et al., 2006; Trotman, 2008).

Engagement. Adolescents may participate in programmes for a variety of reasons, but previous research indicates that the potential benefits can be moderated by the level of engagement they experience (Bundick, 2011). Pearce and Larson (2006) have theorised that, in the process towards optimal outcomes, youth appear to advance through several stages of increasing levels of connection to the programme. The initial level occurs when they join the programme, which may have been motivated by curiosity, interest or extrinsic factors. Youth then begin to form connections with peers and group leaders, the second level of connection, until they become invested and intrinsically motivated by the programme goals, at the third level of connection (Pearce & Larson, 2006). Subsequent research found that this process rested on three types of

personal goal, a) future applications of experiences gained, b) developing personal competence, and c) striving to gain advantages for others and beyond the needs of the self (Dawes & Larson, 2011). The role of leadership in the activity appears to be an important factor also, so that youth experienced the opportunity to exercise their developing capabilities for planning and leadership, supported by youth leaders who maintained the challenges within optimal levels (Dawes & Larson, 2011; Pearce & Larson, 2006; Shernoff & Vandell, 2007).

Need for further research. However, differential effects have been found based on the type of activity, with positive associations for clubs, sports, spiritual and student leadership activities, and negative associations for arts activities (Bundick, 2011; Larson et al., 2006). Additionally, research into the effects of engagement during participation has produced results supporting its importance (Bohnert, Fredricks, & Randall, 2010) but not universally across all activity types (Bundick, 2011). Hence, the role of engagement as a possible moderating factor on the outcomes of music and sport activities was investigated in this study.

Music

The psychological aspects of music playing and listening have generated sustained research interest only relatively recently (Driscoll, 2009; Rentfrow & Gosling, 2003; Rentfrow, Goldberg, & Levitin, 2011) and the range of research questions and variations in methodology has been broad, so that comparing and generalising results can be challenging (Rentfrow & Gosling, 2003; Zentner, Grandjean, & Scherer, 2008). This may, in part, be due to the complexity of music and related experiences, but improved

representations and understanding of neurological functioning have also revealed more of the processes involved (Hallam, 2010; Krumhansl, 2002).

Accordingly, studies have begun to address many perspectives and features of music experiences ranging from age, school and extra-curricular environments, and the influence of achievement, to preferences of genre, associations with factors of personality, and emotional responses to music (e.g., Hallam, 2010; Lamont, Hargreaves, Marshall, & Tarrant, 2003; Rentfrow et al., 2011; Southgate & Roscigno, 2009; Zentner et al., 2008). Adolescents' experiences with music have also been explored as a vector for personality and identity development, reflection and definition (Arnett, 1991; Corrigall & Schellenberg, 2015; Schwartz, & Fouts, 2003), and in relation to aspects of social and PYD behaviors from rebelliousness and risk behaviours to civic and political engagement (Arnett, 1991; Albaran, et al., 2007; Leung & Kier, 2008).

Music in childhood. For many children, music is an early experience as parents sing to soothe or entertain them in an almost innate behaviour (Custodero et al., 2003). Gardner (1983, cited by Custodero et al., 2003) considered music to be the first intelligence to develop, and singing and moving to music are typical, spontaneous, and rewarding behaviours of young children (Custodero et al., 2003). Early interactive musical experiences such as these begin to lay the foundations of cultural traditions and knowledge through the tonal range, language and stories involved in songs (Ilari, 2005). Recent research also suggests that early experience with melodies and rhythms fosters achievement in language, literacy and numeracy learning (Hallam, 2010).

Children may receive music instruction of varying quality and amount in school, and through ECA participation. Both offer opportunities for skill development, the

acquisition of musical experience, knowledge, and the potential for performance (Creech & Hallam, 2003; Lawrence & Dachinger, 1967). Earlier research has produced contrasting findings regarding academic outcomes (e.g., Costa-Giomi, 2004; Schellenberg, 2011; Schellenberg, 2006; Southgate & Roscigno, 2009), but this may be illustrative of the timing, depth or quality of children's musical experience (Hallam, 2010).

Music in adolescence. Adolescents and music seem to have a quasi-symbiotic relationship and, in some ways, this is not surprising as music can be considered a universal element of human existence (Campbell et al., 2007). As adolescents adjust to the developmental changes in their lives, music becomes a mode of communication, connection, representation, comfort, identity, and rebellion (Albaran et al., 2007; Campbell et al., 2007; Hargreaves & North, 1999; Campbell et al., 2007; Ter Bogt et al., 2010).

Although adolescents may engage in both playing and listening to music, these activities appear to be on divergent paths. While time spent listening to music generally increases, music participation in schools has been reported to decline (North, Hargreaves, & O'Neill, 2000) along with participation in ECAs generally (Kahn et al., 2008). Researchers in the UK, for example, have identified low rates of continued music involvement after compulsory school requirements have finished (Lamont et al., 2003), possibly due to incongruence between the curricular content and adolescents' music preferences (Boal-Palheiros & Hargreaves, 2001; North et al., 2000).

Incongruence seems to support other evidence about the importance of music to adolescents. Differences appear to exist between the experiences youth attribute to

contrasting types of music and to the method of involvement. For example, North et al. (2000) found that pop music tended to be used and played for personal enjoyment and fulfilment, whereas listening to and playing classical music was done to please and impress parents and teachers. Gender differences, which were consistent across classical and pop music, indicated that males were more interested in using their music listening and playing to create an impression on others. Girls gave greater importance to whether the music would support their emotional needs (North et al., 2000). Gender differences have also been found in children's and adolescents' perceptions and choices of instruments for boys and girls to play. Girls typically sang, or played wind or string instruments, whereas boys were more likely to play guitar, percussion, or brass instruments (Hallam, Rogers, & Creech, 2008).

Listening to music. By adulthood, the majority of people listen to music rather than playing it which suggests that, during adolescence, active music participation through playing is not sustained as an activity (Welch & Adams, 2011). However, adolescents demonstrate great interest in listening to music, which provides opportunities to exercise personal preferences over music content (Campbell et al., 2007). Estimates of the time involved vary and include almost three hours a day (North et al., 2000); four and a half hours a day (Leming, 1987); and around 10,000 hours between Grades 7-12 (Davis, 1985, cited in Schwartz & Fouts, 2003).

Adolescents use music listening as a mechanism to explore ideas, relationships, beliefs and mores, particularly in relation to their self-identity (Arnett, 1991; Schwartz, & Fouts, 2003), as seen in the television programme, "The Choir Changed My Life" (Malone & Isaacs, 2015, episode 1). Identity exploration also includes relating to

musical role models, so that adolescents' beliefs around their ability to emulate the model's success were enhanced if a similar instrument was played by the model and adolescent; or if the model was a vocalist, which was seen as embodying a more attainable form of music making (Ivaldi & O'Neill, 2010).

Music is frequently used as a soundtrack to accompany life experiences, and can be indicative of relationships with family members and peers, as well as reflecting positive, negative, or challenging attitudes towards society, culture, and authority (Leung & Kier, 2008; Schwartz, & Fouts, 2003; Zentner et al., 2008). Additionally, the concerns of parents and authorities about the content of adolescents' own choice of music may also increase its attractiveness (O'Neill, 2005; Albarran et al., 2007; American Academy of Pediatrics, 2009).

Playing music. In Western cultures, learning to play music is often a formal activity available through school and/or as part of a selection of extra-curricular programmes. Whether music learning occurs in school or as an ECA, young musicians report enjoying intrinsically motivated opportunities to play for personal pleasure, alone or in groups, along with the challenge and reward of improvement through practice and perseverance (Driscoll, 2009; Hallam 2010). As in many educational settings, music learning has been found to be supported in positive environments where creativity and agency is incorporated into programme goals and expectations (Creech & Hallam, 2003; Koutsoupidou & Hargreaves, 2009; Moore, Burland, & Davidson, 2003). Such learning situations appear to foster perseverance, responsibility, self-sufficiency, and agency when youth persist with lessons and practice, sometimes in the face of negative peer pressure

regarding their choice of activity or instrument (Hallam, 2010; Moore et al., 2003; O'Neill, 2005).

Playing music within a structured setting, such as an adult-led youth orchestra or school band, has been associated with a strong level of commitment; the development of music and performance skills; increased communication and connections with peers and adults; enhanced creativity; and opportunities for spiritual uplift and relaxation (Barrett & Bond, 2015; Barrett & Smigiel, 2007). Adolescents also learn to cooperate with peers and leaders, as well as to use initiative and persevere in the face of challenges (Hallam, 2010; Larson et al., 2006). Additionally, participating in the creation of beautiful sound and playing a piece of music to move, stimulate, or entertain, may bring elements that are similar to feel good factors available through sports participation (Barrett & Smigiel, 2007; Campbell et al., 2007; Scanlan, Stein, & Ravizza, 1989). It is possible that self-reflection is more intense during music activities than during sports, but other aspects may be similar, such as the challenge of playing in a sports tournament or playing on the stage. Individual performance may draw on personal strengths of courage more than taking to the ice as part of a hockey team, for example (Barrett & Smigiel, 2007; Campbell et al., 2007).

Music playing in unstructured settings has received much less research attention, although this may change as developing technologies permit youth to share performances via You Tube, for instance (Bloustein, 2007; Peluso & O'Neill, 2012). Nevertheless, Lamont et al. (2003) investigated youth's music playing in and out of school and found that around half the sample, aged 12-14 years, reported being self-taught. Additionally, although the participants described their increasing independence over their music

making activities, they also acknowledged the facilitative support from their families (Lamont et al., 2003).

Greater understanding of the relationship between ECA involvement and PYD, particularly character, would benefit youth in the quality of opportunities and experiences they can gain; parents in their selections of activities; and ECA leaders in their planning of programme structure and content. It would also contribute to the understanding of character development from a psychological perspective and would thereby provide evidence for the continued importance of music in the educational curriculum and social environment.

The Current Research

The primary goal of this research was to look at character development in the PYD context as an end point in its own right. While previous researchers have used either virtues or strengths of the VIA classification of character (Petersen & Seligman, 2004) as predictors of other positive or advantageous outcomes, e.g., well-being (Gillham et al., 2011; Peterson et al., 2007), the broadly used Five Cs definition of PYD (Lerner, R. M., Lerner, J., et al., 2005) includes character as an outcome of successful development. The theoretical foundations of PYD suggest that the Five Cs are fostered in circumstances where there is an organised structure, where participation is voluntary, and where adolescents have the opportunity to experience leadership with the support of adults (Catalano et al., 2004; Roth & Brooks-Gunn, 2003a). Although it is difficult to determine the order of effects in the context of PYDs, ECAs are seen as opportunities to learn about and implement aspects of character (Larson, 2011; Park, 2004; Weiss, Kipp, & Bolter, 2012).

Earlier PYD research focused on the importance of adolescents' involvement in after-school activities or youth programmes and thereby may have given less attention to other types of ECA (Mahoney et al., 2006; Mahoney et al., 2005). Yet the range of potential activities and contexts is so great that it is difficult to foresee that there would be a universal process and type of outcome. Moreover, this would not take into account additional factors, such as individual preferences for particular activities, or that adolescents are frequently involved in more than one ECA, or that a wide choice of activities may not be available. Different types of activity and combinations of activities such as sport, leadership, volunteering, and club activities have been associated with positive outcomes such as purpose in life, civic engagement, and self-esteem (Bowker, 2006; Bundick, 2011; Feldman & Matjasko, 2007; Fredricks & Eccles, 2006b; Haugen, Säfvenbom, & Ommundsen, 2011), although negative associations between arts participation and purpose in life have also been reported (Bundick, 2011). Yet activities which are distinctly different, e.g. sport and music, have also elicited similar responses, such as descriptions of the elation of performance from elite athletes in figure skating (Scanlan et al., 1989) and from young musicians (Barrett & Smigiel, 2007).

This raises questions about the most effective way to measure different types of activity so that outcomes can be compared. Sport participation has been the ECA of choice for previous research into aspects of adolescent development and has largely been the subject of quantitative methods (e.g., Barber et al., 2001; Fredricks & Eccles, 2006a). On the other hand, music involvement has been assessed less often in mainstream ECA research and when examined, music research has been more typically assessed using qualitative methods (e.g., Barrett & Smigiel, 2007; Campbell et al., 2007).

The present research included two studies. Study 1 focused primarily on developing a method of assessing music participation, and exploring the relationship between sport and music participation, and character, as assessed by the VIA-IS (Petersen & Seligman, 2004, pp.627-633). Based on the results of Study 1, an expanded definition of music/sports participation was used in Study 2. Additionally, a broader scope of character was taken to include grit (Duckworth & Quinn, 2009), and problem solving, honesty and trustworthiness, and emotional stability (Marsh, 1992). In addition, Study 2 explored the role of activity engagement (Hansen et al., 2003), enjoyment (Adachi & Willoughby, 2014), flow (Martin & Jackson, 2008), and the role of personality in PYD research (John, Naumann, & Soto, 2008).

Study 1

Before embarking on an investigation of the role of sport and music ECAs in PYD, a reliable method of evaluating music was required which would facilitate comparisons with sport activities as equivalent factors. Thus, the research employed assessment methods used in sport research to explore the effects of extra-curricular participation in sport or music as a context for PYD (Bohnert et al., 2010). More specifically, the studies investigated outcomes relating to character development, arguably the least explored of the Five Cs of PYD (Gillham et al., 2011).

As physical activity and sport represents a wide range of activities, different types of music participation were included in the study to parallel the diversity of adolescent sport settings. The playing of music was described as *active participation*. Activities which occurred within an organised environment, such as a youth orchestra or school band, were termed *structured-active participation*; those which took place in less organized settings, as part of a ‘garage-band’ or through solitary playing, for example, were labelled as *unstructured-active participation*.

Development in adolescence occurs as a continual process, during which youth are anticipated to increase their repertoire of knowledge about themselves and their world at large through encounters with various challenges (Damon, 2004; Larson, 2011). Larson (2000) has described the importance of the time required for PYD outcomes to be realised, and the theory of developmental contextualism also lies across a continuum of time (Lerner, R. M., & Castellino, 2002; Lerner, J., et al., 2009). Theories of character development also reflect the need for changes over time (Dolgin, 2011, p. 181-185; Gilligan, 1982; Smetana & Turiel, 2003; Turiel, 2008). With this in mind, data regarding

ECA participation during adolescence was collected from participants who were in their first year of university. Although retrospective data carries the potential for less accuracy, this method is of value when asking participants to evaluate earlier circumstances and activities which may be associated with their current circumstances (Houle, Brewer, & Kluck, 2010). Furthermore, previous research on the adolescent period suggests that the concurrent developmental process of establishing a personal identity means that memories from this time are more salient (Houle et al., 2010; Rathbone, Moulin, & Conway, 2008). Additionally, the time span of interest (high school years) is in the relatively recent past for university students. Even if participants started playing at age four, that is likely to be recalled as a fact, whereas the subject of the study's questions represents their more recent experience, which should favourably influence the accuracy of the responses.

ECA Participation. The first goal of Study 1 was to assess whether quantitative measurement was effective as an assessment method for music participation. It was expected that responses to the ECA participation questions would permit the development of a reliable measure of ECA experience, with higher scores corresponding with greater ECA specific experience.

The second goal of Study 1 was to investigate potential associations between sport or music participation and character outcomes. Previous research into activity participation suggests that beneficial outcomes are positively associated with greater frequency and duration of participation (Barber et al., 2009). It was expected that higher levels of structured-active sport and music participation, in terms of number, intensity

and duration, would predict aspects of character, as defined in the VIA Inventory of Character Strengths (Petersen & Seligman, 2004, pp. 627-633).

Music participation. Previous studies suggest that active music participation is associated with experiences such as inspiration, happiness, reward, perseverance, emotional expression, challenge, learning, practice, and a sense of status and impressing others (Denny, 2007; Hallam, 2010; Koutsoupidou & Hargreaves, 2009; Schmitt-Rodermund, & Vondracek, 1998). Given these earlier findings, Study 1 investigated two aspects of music participation for youth. First, with respect to music playing, it was expected, specifically, that higher levels of active music participation would predict a) higher scores for the virtue of wisdom and knowledge through the strengths of love of learning and curiosity/interest, b) higher scores for the virtue of courage through the strengths of industry/ perseverance and zest/ enthusiasm, c) higher scores for the virtue of humanity through the strengths of social, personal, and emotional intelligence; d) higher scores for the virtue of justice through the strengths of citizenship/ duty/ loyalty/ teamwork, e) higher scores for the virtue of temperance through the strengths of self-control/ self-regulation, and f) higher scores for the character virtue of transcendence through the character strengths of awe/ wonder/ appreciation of beauty and excellence, and hope/ optimism and future-mindedness.

Second, PYD is considered to be fostered in dynamic and interactive circumstances (Larson, 2000; Lerner, R. M., 1991) and, whether done with others or alone, music playing provides experiences of challenge, opportunities for reflection and co-operation, and offers contexts for social interaction (Barrett & Smigiel, 2007). Study 1, therefore, investigated adolescents' motivations to play music in order to assess the

importance of these factors, and to investigate associations between motivations to play music and character. Previous research by Ter Bogt et al. (2010) found five factors which motivated adolescents' music listening: *music importance, mood enhancement, coping, identity, and social identity*. Research by North et al. (2000) found four factors of adolescents' motivations to play music: *emotional needs, creating external impression, pleasing people, and aesthetic motivation*, although several of these factors were cross-loaded. As this area of music research is still somewhat exploratory, it was decided to use three broadly based factors similar to those found in these studies, which were anticipated to represent *emotional needs, social opportunities, and aspects of experiencing music*. Furthermore, given the early stage of this research, interpretation of the results will be tempered with caution.

It was expected that higher levels of music participation would be related to higher ratings of motivations. It was also expected that higher ratings of motivations to play music would predict higher ratings of the VIA character virtues, namely, a) wisdom and knowledge through the strengths of curiosity/interest, love of learning, and practical intelligence/ creativity/ originality/ ingenuity; b) courage through the strengths of industry/ perseverance, and zest/ enthusiasm; c) humanity through the strengths of social intelligence/ personal intelligence/ emotional intelligence; d) justice through the strengths of citizenship/ duty/ loyalty/ teamwork; e) temperance through the strengths of self-control/ self-regulation; and f) transcendence through the strengths of awe/ wonder/ appreciation of beauty and excellence, playfulness/ humour, and spirituality/ sense of purpose/ faith/ religiousness. Further, it was expected that motivations for music playing

would moderate relations between music ECA participation and character, so that higher ratings of motivations would enhance the relationship.

Sport Participation. Although music activities were the main focus of this study, associations between sport activities and character virtues were also investigated. Sport participation has enjoyed the reputation of building character for many years (Chandler & Goldberg, 1990) and factors that promote character development in sport ECAs include coaching behaviours (Bolter & Weiss, 2012), team goals and atmosphere (Bean, Whitley, & Gould, 2014), and sometimes the fortunes of the team (Davidson & Moran-Miller, 2005). Despite this, there appears to be little research with respect to the VIA definitions of character strengths and virtues. Sport participation in general has been associated with a range of positive outcomes (Barber et al., 2009; Eccles et al., 2003; Fredricks & Eccles, 2006b). Given this, it was expected that higher reported levels of sport participation would be associated with a) higher scores for the virtue of wisdom and knowledge through the strengths of practical intelligence/ creativity, judgment, and perspective; b) higher scores for the virtue of courage through the strengths of valour and zest/enthusiasm; c) higher scores for the virtue of humanity through the strengths of social intelligence/ personal intelligence/ emotional intelligence; d) higher scores for the virtue of justice through the strength of equity/ fairness and leadership; e) higher scores for the virtue of temperance through the strengths of teamwork and self-control/ self-regulation; and f) higher scores for the character virtue of transcendence through the character strength of playfulness/ humor, and hope/ optimism and future-mindedness.

Self-Esteem. Extra-curricular activity sport participation in adolescence has been associated with increased levels of self-esteem (Bowker, 2006; McHale, Vinden, Bush,

Richer, Shaw, & Smith, 2005; Haugen et al., 2011), although outcomes have been moderated by factors such as gender and goal orientation (Bowker, Gadbois, & Cornock, 2003). Music learning has also been reported to be associated with higher self-esteem (Barrett & Bond, 2015), although this can be tempered by the quality of interactions between student and teacher, and the level of support from parents (Creech & Hallam, 2011).

However, research evidence also suggests that self-esteem can fluctuate during adolescence (Eccles, Wigfield, Flanagan, Miller, Reuman, & Yee, 1989) and this may have bearing on the outcomes of ECA participation. For example, differences in the level of adolescents' reported self-esteem were associated with a bi-directional effect of sport participation, whereby the level of enjoyment positively predicted self-esteem, and higher levels of self-esteem positively predicted sport participation (Adachi & Willoughby, 2014). Smith and Smoll (1990) found that children reporting low self-esteem responded more positively to coaching that featured positive instruction and encouragement than did children with moderate or high self-esteem.

The above results suggest that self-esteem may be influential in terms of the outcomes of ECA participation: thus, self-esteem was included in the study in order to evaluate the association with music activity participation. Self-esteem was also tested as a possible moderator between ECA participation and character outcomes. It was expected that higher levels of sport or music experience would be associated with well-being in the form of higher levels of reported self-esteem. Following Smith and Smoll (1990), it was expected that self-esteem would moderate the relationship between music experience and character, such that for individuals with lower self-esteem, music

experience would strengthen the association between music experience and character outcomes.

Study 1 - Method

Participants

Participants were recruited through a University online system where information explaining the purpose of the study and outlining the procedure was presented.

Agreement to participate was indicated by clicking on the appropriate website button after participants had read the information on the consent form (see Appendix A). Those who agreed proceeded to the questionnaires hosted by Qualtrics. After participants had finished with these questionnaires, they were then directed to the VIA organisation's website, which hosted the character questionnaire, to complete the character measure. Before exiting the survey, participants were thanked and a debriefing statement about the purpose of the study was presented. Those who declined were thanked and exited the survey website via an appropriately worded version of the debriefing statement (see Appendix B.)

Data collection procedures

The surveys were set up to ensure participants' anonymity on the two US based questionnaire servers used in the study: Qualtrics and the VIA Institute. Each participant was assigned an ID number in SONA and used this number on the Qualtrics and VIA Institute survey sites. Under the terms of use, the VIA organisation collected the data and supplied a single Excel spreadsheet of summary scores for each of the 24 strengths at the completion of the study. Therefore, participants needed to navigate to a second link to complete the VIA Inventory of Character Strengths (Petersen & Seligman, 2004). Upon

completing this measure, participants were able to access a report from the VIA Institute describing their leading character strength.

Measures

Demographic information. Participants were asked to supply information with respect to their age and gender.

Extracurricular Participation Questionnaire (Boekhoven & Bowker, 2012b; Bowker et al., 2003). Participants were presented with questions about their sports and arts extracurricular activities during their high school years, but not limited to ECAs based in high school, such as band or school teams. For each of these, participants were asked about the types of activity, duration in years, and frequency in hours per week. With specific regard to music activities, participation was assessed in terms of structured and unstructured settings, again in terms of type, duration and frequency (see Appendix C).

Motivations for Music Participation Questionnaire (Boekhoven & Bowker, 2012a). Participants' motivations for playing music or singing were explored using 14 items such as, "I used music/singing to stimulate my mood" or "I liked to play music/sing with friends", which were rated on a Likert scale ranging from 1 = *does not apply* to 7 = *applies completely*. (See Appendix D).

Factor Analysis. To identify themes of experiences within the participants' motivations to play music and singing, principal components factor analysis with varimax rotation was used. Three factors were extracted from the rotated matrix which accounted for 49.37%, 8.33%, and 7.13% of the variance and which were termed *emotion and identity motivations*, *social motivations*, and *personal music motivations*, respectively. A

factor analysis forcing a three factor solution produced the same arrangement of the component items (see Table 2). Tests of reliability of the factors produced a Cronbach's alpha of .91 for emotion and identity motivations. The second factor, social motivations, had a Cronbach's alpha of .78, and for the third, personal music motivations, Cronbach's alpha was .76.

Table 2

Rotated Component Matrix for Motivations for Music Participation

Scale item	Motivations		
	Emotion &	Social	Personal
		Identity	music
I used music/singing to cope with my emotions	.79	.22	.19
My music choices showed others who I am	.78	.21	.27
My music choices showed others who I'd like to be	.76	.28	.03
I used music/singing to express my emotions	.76	.24	.31
I used music/singing to stimulate my mood	.70	.31	.31
I used music/singing to retreat into	.64	.12	.49
I used music/singing to reflect my mood	.59	.23	.47
I liked to play music/sing with friends	.08	.79	.22
I recommended music to friends	.31	.66	.22
I followed the music recommendations of friends	.27	.66	.06
I used music/singing to connect with others	.46	.65	.17
I preferred to choose music for myself	.29	-.02	.80
I was aware of the lyrics in music	.12	.43	.71
I was aware of the instrumental/vocal elements in	.19	.37	.59
music			
I liked to play music/sing when I was alone	.49	.21	.53

Note: Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalization. Rotation converged in 6 iterations.

Self-Description Questionnaire (SDQ) III (Marsh, 1992). Participants reported their general self-esteem using the SDQ III measure which is designed for use with adolescents and young adults. Participants respond to items such as, "Overall, I do lots of things that are important", and, "Overall, I am not very accepting of myself" (reverse scored), using an 8-point Likert scale anchored from *1 = definitely false* to *8 = definitely true*. The measure is reported to be stable across time and co-efficient alphas vary between 0.76 and 0.95 (Marsh, 1992; see Appendix E).

VIA Inventory of Character Strengths (Petersen & Seligman, 2004, pp. 627-633). Participants were asked to indicate their level of agreement with 240 items assessing character across 24 character strengths which form the six overarching virtues of wisdom and knowledge, courage, humanity, justice, temperance, and transcendence. There are 10 questions per character strength, such as, "I find the world a very interesting place", three of which are reversed scored, e.g., "Others rarely come to me for advice". Participants respond using a 5 point Likert scale with the following anchor points: *very much like me, like me, neutral, unlike me, very much unlike me*. All the scales are reported to have satisfactory alphas $>.70$, and test-retest correlations over 4 months were also $>.70$. This measure must be completed on the VIA website, is reported to take 30-40 minutes, and thereafter a single Excel spreadsheet summary of the mean scores for the component strengths is provided by the VIA organisation (see Appendix F).

Study 1 - Results

The study had two main goals, the first of which was to make an assessment of the sport and music ECAs in which participants were engaged during high school. The second goal was to investigate the way that sport and music ECAs related to the PYD component of character, and to self-esteem. The association between sport and music ECA participation and self-esteem was also assessed, with the expectation that higher levels of participation would be related to higher reported self-esteem. Higher levels of self-esteem were also anticipated to moderate the association between sport and music ECA participation and character outcomes.

Descriptive statistics were used to examine the data. Correlation analyses were used to identify associations between ECA involvement in sport and music, the motivations for playing music, self-esteem and the VIA character variables. Regression analyses were used to test whether character outcomes were predicted by sport or music ECA involvement, self-esteem, or by music motivations. The role of self-esteem as a possible moderator of any association between sport and music ECA participation and character outcomes was assessed. Similarly, the role of music motivations as a possible moderator between music participation and character outcomes was also explored.

Examination of the data

Participants. The initial sample consisted of 308 students from an Ontario University. This number was reduced to 246 (178 female, $M_{\text{age}} = 20.32$; $SD_{\text{age}} = 1.22$, range 19-23 years) as 35 participants (12.5% of the sample) exceeded the required age limit for the study, 23 years. (Participation was open to students who were enrolled in one of several first and second year psychology courses.) Additionally, due to the problems

encountered by participants at the point of navigating to the website hosting the VIA-IS measure, the sample was further reduced to 145 (58.9% of the sample) for the VIA character variables.

Missing data. All variables had less than 5% missing data with the exception of sport years total, of which 26.4% was missing and music years total, of which 29.3% was missing.

Data normality. The data were examined for normality. The raw sport and music ECA variables for years of participation displayed some positive skew and kurtosis, and the range was noted to be quite wide, but not implausible. As the responses were used in summary variables, no action was taken to transform the data. No outliers were found as the range of most responses was restricted within Likert scales.

Descriptive statistics

ECA participation. Participants provided information about their sport and music ECAs and could nominate up to three activities within each category. Sport participation was reported by 73.6% of the respondents. Involvement in only one activity was reported by 24.4%, 30.5% reported taking part in two sport activities, and 18.7% in three. Music activities, indicated by the number of instruments played, was reported by 71.5% of the respondents, of which there were 35.4% of respondents who played one instrument, 22.4% who played two, and 13.8% who played three.

Structured music participation. Of those involved in music, music learning in high school (35.4%), participation in the school band (27.6%), and in high school choir (30.9%) were the most common types of structured music ECA. Structured music activities outside high school (e.g., in the community) were reported by smaller

proportions of the sample. Orchestra activities out of school were nominated by 2.8% of the sample and 8.5% reported involvement in an out-of-school choir.

Participants indicated the hours per week and number of years that they had been involved in each type of music activity. High school music activities occupied more hours per week and had greater duration than out-of-school music activities, as shown in Table 3.

Unstructured music participation. Participants reported greater involvement and time in playing or singing alone than in participating in a garage band. Playing music or singing when alone was reported by 86.6% of the sample, the mean hours per week was 1.13 ($SD = 0.34$) and, while the mean duration was 6.91 years, a wide range was indicated by the standard deviation value of 12.50. Playing in a garage band was reported by 15% of participants (3.7% reported playing two instruments and 0.8% reported three). The mean hours per week was 0.21 ($SD = 0.67$) and the mean duration of involvement was 0.22 ($SD = 0.84$) years.

Music learning and lessons. Learning to play music or to sing during high school years was reported to occur in a variety of settings, both structured and unstructured. Involvement in music or singing lessons was reported by 52% of the sample, over an average duration of 6.48 ($SD = 4.29$) years. Participants (43.9%) also reported teaching themselves, using books (26.40%) or the Internet (34.6%).

ECA experience

As very few participants reported involvement in unstructured-active music such as garage bands, music participation in structured and unstructured settings were combined to form a single music activities variable. Several approaches were tried to

quantify participants' responses with respect to the different aspects of their music participation. The use of breadth of experience was limited because participants were restricted to three nominations of activities. Quantification of breadth of experience was also attempted using the total number of venues in which participants reported involvement, e.g., school band, orchestra out of school, garage band. However, the majority of participation occurred as part of the school band, thus restricting variability. Ensuring the validity of variables was also difficult given the different possible combinations of numbers of instruments and venues e.g., one instrument in three venues, versus three instruments in two venues. In others, such as assessments of whether participants had received lessons or taught themselves, the data was dichotomous, *yes* or *no*, rendering it less useful for quantitative analysis.

Theoretically, PYD is conceptualised as occurring across time (Larson 2000; Lerner, R. M., 1991) and longer duration of ECA participation has been associated with positive activity-related, personal, and social outcomes (Bohnert et al., 2010; Fredricks & Eccles, 2006a). Duration of participation in music activities has been found to support positive outcomes in both the development of relevant skills and in qualities such as perseverance (Hallam, 2010; Moore et al., 2003; O'Neill, 2005). Two ECA variables were created to explore the effects of duration of activity participation, *music years total* (i.e., if a student had played the violin for 10 years and also sang in the high school choir for 3 years, the total music score would be 13) and a corresponding variable for *sport years total*. Means (*SD*) of these variables are shown in Table 3.

Motivations to play music. Three variables were created using factor analysis from participants' responses to questions about their motivations for playing music,

Emotion and identity, Social, and Personal music. Table 3 displays the means (SD) of these variables.

Self-esteem. Participants' scores in response to questions about their self-esteem were averaged to produce an indicator of general self-esteem (see Table 3).

Character virtues. Due to difficulties with the collection of data online, character data were available from only 58.9% of the sample ($N=145$). Variables for character virtues were computed using the mean scores (supplied by VIA) of the component strengths. Descriptive statistics are shown in Table 3.

Table 3

Descriptive Statistics for ECA Participation, Music Motivations, and Character Virtues

Variables	Mean	Std. Deviation
ECA participation (years)		
Sport	6.88	7.75
Music	4.12	4.95
Motivations		
Emotion and identity	5.08	1.37
Social	5.63	1.15
Personal music	4.94	1.31
Self-esteem	5.87	1.26
Character Virtue		
Wisdom & knowledge	3.78	0.48
Courage	3.76	0.53
Humanity	3.95	0.54
Justice	3.93	0.54
Temperance	3.54	0.47
Transcendence	3.64	0.54

Correlational analyses

Correlational analyses were used to explore associations between sport and music ECA participation, motivations to play music, self-esteem, and participants' ratings for measures of the character virtues. The two types of ECA were positively correlated, as were the six VIA virtues, and the three factors of motivation for playing music. Music participation was not significantly related to any of the VIA virtues. Significant positive associations were found for sports participation with wisdom and knowledge, courage, justice, and temperance. The three factors of motivations for music playing were significantly and positively related to ECA music participation. Emotion and identity was significantly positively correlated with wisdom and knowledge, humanity, and transcendence; and Social and Personal music motivations were significantly and positively related to wisdom and knowledge, courage, humanity, justice, and transcendence. Self-esteem was not significantly related to either sport or music ECAs, but was positively related to the VIA virtues of wisdom and knowledge, courage, humanity, justice, and transcendence, as well as to personal music motivations to play music. Table 4 displays these results.

Table 4

Correlations for ECA Participation, Music Motivations, Self-esteem, and Character Virtues

	1	2	3	4	5	6	7	8	9	10	11	12
1. SY	-											
2. MY	.15*	-										
3. E&I	.03	.19**	-									
4. S	.14*	.18**	.64**	-								
5. P	-.04	.28**	.70**	.59**	-							
6. SE	.00	-.01	.02	.12	.15*	-						
7. W&K	.19*	.14	.19*	.19*	.26**	.31**	-					
8. C	.24**	-.01	.06	.28**	.24**	.49**	.68**	-				
9. H	.14	.04	.29**	.36**	.35**	.35**	.63**	.71**	-			
10. J	.16*	.04	.13	.18*	.20*	.21*	.57**	.62**	.73**	-		
11. Te	.24**	.06	.01	.03	.06	.11	.46**	.49**	.48**	.65**	-	
12. Tr	.09	-.02	.23**	.27**	.27**	.46**	.59**	.66**	.70**	.63**	.46**	-

Note: SY = Sport years, MY = Music Years, E&I = Emotion and identity motivations, S = Social motivations, P = Personal music motivations, SE = Self Esteem, W&K = Wisdom and Knowledge, C= Courage, H = Humanity, J = Justice, Te = Temperance, Tr = Transcendence.
 Correlation is significant at the 0.05 level (2-tailed). **. Correlation is significant at the 0.01 level (2-tailed).

Regression analyses

ECA participation. Hierarchical regression was used to test whether the duration of participation (i.e., sport total years and music total years) and self-esteem predicted VIA character outcomes, and whether any relation between ECA participation and character was moderated by self-esteem. Sport total years and music total years were entered at Step 1, self-esteem was entered at Step 2, and interaction terms between sport or music and self-esteem were entered at Step 3.

Wisdom and Knowledge. Overall duration of sport and music was a significant positive predictor at Step 1, although neither coefficient for sport or music was significant. At Step 2, self-esteem was a significant, positive predictor. There were no significant interactions at Step 3.

Courage. Sport duration was a significant predictor of courage at Step 1. At Step 2, self-esteem was a significant, positive predictor. At Step 3, the interaction terms were not significant.

Humanity. At Step 1, neither sport nor music duration significantly predicted humanity. Self-esteem was a significant, positive predictor at Step 2. At Step 3, there were no significant interactions.

Justice. At Step 1, there was no significant prediction of justice by either sport or music duration. At Step 2, self-esteem was a significant, positive predictor. The interactions at Step 3 were not significant.

Temperance. Temperance was significantly predicted by sport duration at Step 1. Self-esteem was not a significant predictor at Step 2, and the interaction terms at Step 3 were also not significant.

Transcendence. Sport and music duration were not significant predictors at Step

1. At Step 2, self-esteem was a significant, positive predictor of transcendence. The interaction terms were not significant at Step 3 (see Table 5 for values).

Table 5

Hierarchical Regression Analysis Predicting Character Virtues with ECA Participation and Self-esteem

Character Virtue	Step	Variable	ΔR^2	R^2 total	Beta
Wisdom & Knowledge	1	Sport & music		.05*	
		Sport			.07
		Music			.05
	2	Self Esteem	.11	.16***	.16
	3	Interactions	.02	.18	
		Sport x Self-esteem			-.04
Courage	1	Sport & music		.06**	
		Sport			.12**
		Music			-.03
	2	Self Esteem	.25	.31***	.26
	3	Interactions	.01	.31	
		Sport x Self-esteem	.29		-.03
		Music x Self-esteem	.08		-.02

Character Virtue	Step	Variable	ΔR^2	R ² total	Beta
Humanity	1	Sport & music		.02	
		Sport			.07
		Music			.01
	2	Self Esteem	.13	.15***	.19
	3	Interactions	.00	.15	
		Sport x Self-esteem			.00
Justice	1	Sport & music		.03	
		Sport			.08
		Music			.01
	2	Self Esteem	.05	.08**	.12
	3	Interactions	.01	.08	
		Sport x Self-esteem			.00
		Music x Self-esteem			-.05

Character Virtue	Step	Variable	ΔR^2	R^2 total	Beta
Temperance	1	Sport & music		.06*	
		Sport			.11**
		Music			.01
	2	Self Esteem	.02	.07	.06
		Interactions	.00	.07	
	3	Sport x Self-esteem			.01
		Music x Self-esteem			-.00
Transcendence	1	Sport & music	.01		
		Sport			.05
		Music			-.02
	2	Self Esteem	.18	.19***	.23
		Interactions	.00	.20	
	3	Sport x Self-esteem			-.02
		Music x Self-esteem			-.01

Note: * $p < .05$. ** $p < .01$, *** $p < .001$

Motivations to play music. Hierarchical regressions were used to assess whether the duration of music participation and the motivations for music participation predicted the VIA character virtues. Music duration (years total) was entered at Step 1. The three factors of motivations to play music, Emotion and identity, Social, and Personal music, were entered at Step 2. Interaction terms between music duration and the factors of motivation to play music were entered at Step 3.

Wisdom and knowledge. At Step 1, music duration was not a significant predictor. At Step 2, motivations for playing music was a significant predictor, although no individual factor was significant. At Step 3, the interactions terms were not significant.

Courage. Music duration was not a significant predictor at Step 1. At Step 2, Emotion and identity was a significant, negative predictor, while Social and Personal music factors were significant, positive predictors. However, Emotion and identity was not significantly correlated with courage, so this result may be due to a suppression effect (Howell, 2002, pp. 557-558) and the outcome will be interpreted as a main effect of music motivations overall. The interaction terms were not significant at Step 3.

Humanity. At Step 1, the duration of music participation was not a significant predictor of humanity. At Step 2, Social and Personal motivations to play music were significant, positive predictors. At Step 3, the interactions were not significant.

Justice. The duration of music participation was not a significant predictor at Step 1. At Step 2, none of the factors of motivations to play music was significant, and none of the interaction terms were significant at Step 3.

Temperance. At Step 1, the duration of music participation was not a significant predictor. The motivations to play music were not significant predictors at Step 2. None of the interaction terms was significant at Step 3.

Transcendence. The duration of music participation was not a significant predictor at Step 1. At Step 2, motivations for playing music was a significant predictor, although none of the individual factors was significant. There were no significant interactions at Step 3. Results of the analyses are shown in Table 6.¹

¹ **Gender.** Gender was included in a further series of regression analyses to investigate whether it predicted or moderated the association between ECA participation and the character outcomes. In each of these analyses, gender was added to the sport and music ECA variables at Step 1, interaction terms between gender and the ECA variables were entered at Step 2, Self-esteem was entered at Step 3, and interactions between self-esteem and the ECA variables and gender were entered at Step 4. There were no significant results for gender, and no significant interactions found.

A similar process was used for the analyses using music participation (years total) and motivations to play music: Gender was added at Step 1, Step 2 was the interaction term between music participation and gender; the three factors for music participation were entered at Step 3; and the interaction terms between the three factors and gender were entered at Step 4. There were no significant results for gender and no significant interactions found with gender and sport or music. Therefore, gender was not included in further analysis.

Table 6

Hierarchical Regression Analysis Predicting Character Virtues with Music Participation and Music Motivations

Character Virtue	Step	Variable	ΔR^2	R ² total	Beta
Wisdom & Knowledge	1	Music		.03	.07
	2	Music motivations	.06	.08**	
		Emotion & identity			.01
		Social			.02
		Personal music			.12
	3	Interactions	.01	.10	
		Music X Emotional & identity			-.06
		Music x Social			.01
		Music x Personal music			-.01

Character Virtue	Step	Variable	ΔR^2	R ² total	Beta
Courage	1	Music		.00	.00
	2	Music motivations	.13	.13***	
		Emotion & identity			-.15
		Social			.17
		Personal music			.17
	3	Interactions	.01	.14	
		Music X Emotional & identity			-.09
		Music x Social			.09
		Music x Personal music			-.03
Humanity	1	Music		.00	.03
	2	Music motivations	.16	.16***	
		Emotion & identity			.01
		Social			.12*
		Personal music			.16*
	3	Interactions	.01	.17	
		Music x Emotional & Identity			-.11
		Music x Social			.06
		Music x Personal music			.02

Character Virtue	Step	Variable	ΔR^2	R ² total	Beta
Justice	1	Music		.00	.03
	2	Music motivations	.05	.05	
		Emotion & identity			-.02
		Social			.06
		Personal music			.11
	3	Interactions	.00	.05	
		Music X Emotional & identity			.03
		Music x Social			-.01
		Music x Personal music			.02
Temperance	1	Music		.01	.03
	2	Music motivations	.00	.01	
		Emotion & identity			-.02
		Social			-.00
		Personal music			.05
	3	Interactions	.01	.02	
		Music X Emotional & identity			-.07
		Music x Social			.07
		Music x Personal music			-.01

Character Virtue	Step	Variable	ΔR^2	R ² total	Beta
Transcendence	1	Music		.00	-.01
	2	Music motivations	.10	.10**	
		Emotion & identity			.02
		Social			.09
		Personal music			.12
	3	Interactions	.01	.11	
		Music X Emotional & identity			-.02
		Music x Social			.05
		Music x Personal music			-.03

Note: * $p < .05$. ** $p < .01$, *** $p < .001$

In summary, music experience (i.e. duration in years) was not related to character, but sport experience significantly predicted wisdom and knowledge, courage, and temperance. However, the motivations for participating in music, such as coping with emotions or interacting with peers through interests in common, were significant predictors of character. Self-esteem also significantly predicted character, although no interactions were found with either sport or music ECAs.

Study 1 - Discussion

The aim of this study was to investigate adolescents' extra-curricular sport and music experience in a variety of settings and formats, and to explore links between this and the PYD outcome of character. Additionally, the reliability of scales to measure adolescent music participation and motivations for involvement was assessed. The chosen methodology was similar to previous ECA research chiefly looking at sports activities, in which measures of the number, duration, and frequency of involvement are used to indicate the level of participation and experience (Barber et al., 2009; Busseri, Rose-Krasnor, Willoughby, & Chalmers, 2006).

ECA involvement

ECA involvement was reported by the majority of respondents during their high school years. Sport was the leading ECA choice, echoing findings from previous research (e.g., Feldman & Matjasko, 2007). Together, ECA sport and music participation significantly positively predicted three of the six character virtues: wisdom and knowledge, courage, and temperance, providing support for the association between involvement and PYD character outcomes. On its own, music was not a significant

predictor of any of the virtues. Sport specifically predicted the VIA virtues of courage and temperance, qualities that may be required and tested during sport activities.

The motivations for playing music were significant predictors of wisdom and knowledge, courage, humanity, and transcendence, which suggests that the experience of involvement may be as influential as the activity itself in terms of predicting PYD character outcomes. Self-esteem also significantly predicted five of the six virtues; wisdom and knowledge, courage, humanity, justice, and transcendence, suggesting that feeling good personally may be a contributing factor in character development.

Music activities

In terms of music participation, most of the participants reported some form of involvement in music, be it in structured or unstructured settings. Much of this occurred through activities aligned with high school, in the form of learning a musical instrument and/or taking part in the school band or choir, but individual music activities were also reported by many participants. This echoes previous research findings which have shown that the importance of music to individuals increases during adolescence (Campbell et al., 2007).

Music activities associated with high school were reported to take up the largest proportion of time in terms of hours per week spent in music. A very wide range of years of experience was found, suggesting some participants started learning as young children. In terms of active-unstructured music participation during high school years, a high proportion of participants reported involvement in individual music, such as playing alone. However, very few reported engaging in unstructured-active music playing such as in a garage band with peers. Possible explanations for this include a high level of

scheduled activities (Mahoney et al, 2006) or transportation difficulties to friends' houses resulting in less time available for additional music activities. It is also possible that the need or rationale for this activity has changed because the Internet provides an alternate venue for music participation and sharing via Skype or YouTube (Bloustein, 2007; Peluso & O'Neill, 2012). Additionally, music-playing video games may have replaced the desire for, or actual, participation in music. These questions could be the subject of future research.

Music and character development

The relationship between music experience and character development remains undetermined after this study, possibly hampered by difficulties with the proprietary VIA measure and website. Approximately half the sample was lost during the transition between the website hosting the first part of the Study 1 questionnaire and the VIA website hosting the VIA-IS character measure. Due to the presentation of summary data from VIA, it is not possible to determine whether there was additional attrition due to the length of the VIA survey, for example. Furthermore, it was not possible to see all of the items in the VIA-IS which, inevitably, hampered interpretation of the results.

The lack of a clear association between music participation and character may be a reflection of previous research in which adolescents were unable to identify tangible links between music activity involvement and character development, although their adult teachers were able to do so (Barrett & Bond, 2015). Nonetheless, the challenges of learning to play music, practicing regularly, working as part of a group with the common purpose of music making, and performing music in public all seem to naturally require at least motivation, determination, courage, knowledge, and commitment (Hallam, 2013).

Similarly, the experiences of playing music or singing imply appreciation of beauty, transcendence, stimulation, and a range of emotional responses (Barrett & Bond, 2015). Thus, experiences from music involvement in and of themselves suggest factors that would contribute to the development of character, particularly as defined by the VIA strengths (Petersen & Seligman, 2004, pp. 627-633). In addition, involvement in ECAs, as well as the personal agency and initiative that would be required to teach oneself music, for example, are both identified as factors that promote PYD, of which character is a proposed element (Larson, 2000; Lerner, R. M., et al., 2000; Roth & Brooks-Gunn, 2003b). Additional research will be needed to explore these questions further.

Self-esteem

The study did not find an association between current music participation and self-esteem, although this has been found in previous research (Hallam, 2010). Self-esteem was correlated with the personal music motivations for music playing, however, which suggests that the experience of engaging in music activities which are personally rewarding is associated with a sense of feeling good about oneself.

Self-esteem was also found to predict five of the six VIA character strengths: wisdom and knowledge, courage, humanity, justice and transcendence, but there were no interactions with either sport or music. This may imply that participants who report feeling generally good about themselves are able to proceed with character development in any setting, or that the input from sport and music participation does not contribute substantially to this process. However, these proposed explanations must be considered with caution in light of the difficulties in measuring character during this study.

Motivations for music participation

Participants' reported motivations for playing music predicted four of the VIA character strengths: wisdom and knowledge, courage, humanity, and transcendence, but there were no interactions between music experience and the motivations for playing music. This suggests that rather than the actual activity of music being influential in character development, the process may depend on the experiences gained by adolescents while participating. For example, courage was predicted by music motivations overall and this may illustrate that taking the risk to suggest a choice of music to a peer or making individual choices in music may contribute towards a sense of courage. Humanity was positively predicted by social motivations, and this may illustrate that building social connections (e.g., "I used music/singing to connect with others"), would lead to an awareness of the wider social environment. Additionally, music participation can introduce a multiplicity of musical styles and influences, thus possibly increasing adolescents' curiosity and knowledge of global cultures and their associated musical traditions.

Previous research has supported the importance of engagement as underlying the meaningfulness of participation, and hence the positive outcomes of ECA participation (Larson, 2000; Pearce & Larson, 2006). The component factors of the three motivations to play music found in this study suggest that music serves to foster self-exploration, social contact with peers, and satisfies personal interests in music although, as the VIA-IS items were not available, these results must be interpreted cautiously. Moreover, as associations between arts activities engagement and negative outcomes have also been found (Barber et al., 2001; Bundick, 2011), and music ECAs have received less research

with respect to engagement (Barrett & Bond, 2015), further exploration of this aspect of music activities is warranted.

Limitations and Future Research

Measuring music. This study raises questions of how best to measure something as wide ranging and ubiquitous, yet personal, as music experience. Sports research has used various combinations of the total number of sports, the number of years of involvement, and the number of hours per week to provide indicators of the level of involvement (Bohnert et al., 2010). However, in order to capture the outcomes of music experiences and the relationship with character, it may be that the amount or intensity of music (as a sort of dosage factor) is less important than the level of engagement and the quality of the experience for the individual.

The range of music experiences is at least as wide as in sports but there are several circumstantial differences which may contribute to the difficulty in data collection. For example, while there are many different sports, the most typical versions used in ECAs are found in a team format, and this applies to both practice and performance. The cohesion and co-operation towards the team atmosphere and purpose is considered as a fruitful setting for PYD outcomes (Hansen et al., 2003). However, for music, much of the learning and practice takes place individually, and requires motivation (either intrinsic or extrinsic) to achieve (Driscoll, 2009). Additionally, most team sports can be played at a novice level, whereas music and musical instruments require the acquisition of at least a basic level of skills.

Revisions required for the music activities measure. The design of the music activities measure created several difficulties with interpretation of the resultant data.

First of these was a lack of clear distinction between the various categories of music activity and also between the items quantifying involvement. This requires a balance between defining terms in too fine-grained or too gross-grained terms, resulting in either repetitive questions for each possible music participation scenario (e.g., playing as a school ECA, playing recreationally, taking lessons, practicing, performing, writing music and listening to music) or failure to capture sufficient data to be able to distinguish meaningful differences on the basis of varied experience. Additionally, rather than using summary indicators of experience, it may be sufficient to ask participants to rate their experience; from novice to expert, for example.

The estimation of time spent in activities is also subject to problems with accuracy. It may be more useful to ask participants to select from a range of options with respect to time or the frequency of practices. Moreover, asking participants to look retrospectively at their high school participation may introduce high variability through poor or inaccurate recall. However, retrospective methods have been justified in previous research where the research question necessitates a reflective examination of prior experience (Houle et al., 2010).

Third, recruiting a mixture of music players and non-music players meant that music players were a small proportion of the sample. Instead, an improved approach may be to recruit participants who are involved in music studies, as they will have greater experience playing music. Additionally, their impressions of what music means to them would, presumably, be salient and recent.

Measuring Character. Approximately half the sample was lost at the point where participants had to make the transfer from the university data collection site to the

site hosted by VIA. Although attempts had been made in collaboration with VIA to simplify this process, it still required six separate instructions and several tasks to be completed by each participant. Further, as VIA provide a file with summary data for each of the 24 character strengths rather than the raw data from the 240 items, it is impossible to check if the length of the survey was influential in causing fatigue in responding to items or whether specific questions were avoided by participants.

Interpretation of the results was also hindered by limited access to the items used in the VIA-IS scales.

The six factor structure of the VIA virtues has not been consistently found in previous research. Petersen and Seligman (2004, pp. 632-633) initially reported finding a five factor solution, comprising *strengths of restraint, intellectual strengths, interpersonal strengths, emotional strengths, and theological strengths*, which they claimed was close to their conception of the VIA virtues. They also acknowledged parallels between the first three of these factors and three of the Big 5 traits of personality (Goldberg, 1993): conscientiousness, openness, agreeableness; while emotional strengths was described as the converse of neuroticism. Similarly, Macdonald, Bore, & Munro (2008) found a four factor solution, with *positivity, intellect, conscientiousness, and niceness*, which did not contain items similar to those designated in VIA but, instead, correlated with four of the Big 5 factors of personality (Goldberg, 1993): extraversion, openness, conscientiousness, and agreeableness, respectively (Macdonald et al. 2008). Thus, questions about the factor structure, in addition to no access to the raw data, suggest that the VIA-IS is not the most suitable measure for use in assessing character development overall.

The VIA-IS is intended to identify an individual's leading character strength (i.e., one of 24 strengths), which may render it less appropriate for use in providing an assessment of character in general. Although in this study, variables were created using the factor structure of the six VIA virtues, this may reduce the possibility of finding effects in contrast with an assessment of character as a global outcome. For example, Lerner and colleagues in the 4-H series of studies combined items from several measures to assess character (e. g., Lerner, R. M., Lerner J. V., et al., 2006). Therefore, future research will need to explore a measure that can, in some way, assess the development and qualities of character that individuals may possess.

Moderating factors. Further exploration of the effects of engaging in music activities is supported by the findings that the Emotion and identity, Social and Personal motivations for playing music were (variously) associated with the VIA character virtues of wisdom and knowledge, courage, humanity, and transcendence, while music participation was not. The perceived value of activity involvement has been found to be influential on outcomes (Adachi, & Willoughby, 2014) and so it may be productive to examine elements such as engagement (Busseri et al., 2011; Ramey, Rose-Krasnor, Busseri, Gadbois, Bowker, & Findlay, 2015) and flow (Trayes, Harré, & Overall, 2012) while participating in music activities, to assess the level of involvement. Factors which may influence the quality or perceived experiences of participating in music could also be assessed, such as engagement and the quality of experiences during participation.

Furthermore, this study looked only at the reward or hedonic side of music participation, and did not include the purpose, meaning, or eudaimonic aspects that might be related to music practice, for example. In terms of relating to character, this might be

presenting only half the picture. Indicators of grit (Duckworth et al., 2007), for example, may be more appropriate.

In conclusion, this study did not find evidence that participation in music ECAs was related to related to the VIA character strengths. However, experiences encountered while involved in music activities were significantly related to VIA character strengths. These results leave research evidence about the value of music ECAs as a setting for PYD character development unclear, and also raise the need for further inquiry about the role of engagement during participation.

Sport ECAs were found to be related to the VIA character virtues but the study design prevented further investigation of this. Thus, additional research is required to explore this finding. Self-esteem also predicted the VIA character virtues but did not moderate the association between ECA activities and character outcomes. Further research is again required to investigate whether individual characteristics have a substantial role in predicting character, particularly in ECA settings.

Various measurement issues may have played a substantial part in these results as the data regarding music participation and VIA character virtues presented difficulties. However, the study's findings suggest that the process of participation in sport and music ECAs requires further investigation and this is the overall goal of Study 2.

Study 2

Extra-curricular activities are a typical feature of childhood and adolescence and, although it has received less research attention than other PYD outcomes, character development is claimed among the benefits of involvement (Lerner, R. M., Lerner, J., et al., 2005). This is particularly the case if the experience of participation has been engaging and has provided opportunities for learning through experience (Barrett & Bond, 2015; Hansen et al., 2003; Linver et al., 2009). Study 1 revealed associations between sport ECA participation and the VIA virtues of character, but music ECAs did not produce the same effect. On the other hand, participants' reported motivations for music involvement and their experiences therein were associated with the VIA character virtues. These outcomes indicate the need for further investigation because both activities hold the potential for character development, as described in PYD and ECA literature (Barber et al., 2009; Barrett & Bond, 2015; Bean et al., 2014; Weiss, 2008).

ECA participation and character

The two most common choices for ECA participation are sport and music (Balsano, Phelps, Theokas, J. V Lerner, & Lerner, R. M., 2009; Guèvremont, Findlay, & Kohen, 2008) so, as with Study 1, these were used in this study. The picture for research into sport ECAs as a setting for character development differs from that of music ECAs. Whereas the benefits of music participation for character are still in the early stages of research, sport has long been associated with character development in general terms (Chandler & Goldberg, 1990), is considered a setting for PYD and Five C character development (Fraser-Thomas, Côté, & Deakin, 2005), and has become a focus of character research (e.g., Weiss, 2008).

The development of character through sport appears to be less overtly concerned with abstract moralities, instead taking a more pragmatic direction towards concepts of sportsmanship, fair play, and the motivation for participation. This is reflected in the definitions adopted in sport and character research. Chandler & Goldberg (1990) use winning to make the differentiation between participation with an end result in mind, i.e., to win a prize or championship; and participation as a means to increase personal capabilities, which can include both sport and characterful behaviour, i.e., to win the experience and reward of good sportsmanship. In this conceptualisation, Chandler & Goldberg cite Goffman (1967) who identified four components of character: *courage*, *gameness*, *composure*, and *gallantry*. Bean et al. (2014) took as their research definition of character the goals of the organisation at the centre of their study, namely to foster *purpose*, *respect*, *integrity*, and *confidence*. In some respects, definitions of character as seeking higher and broader goals rather than immediate, narrower ones, reflect the performance versus mastery orientations outlined by Ames and Archer (1988). Similar outcomes within a moral context have been reported in differences between the life-aspirations of recreational athletes, who tended to use intrinsic, mastery-type orientations, in comparison with competitive athletes, who were more inclined to use extrinsic, performance-type life-aspirations (Chatzisarantis & Hagger, 2007).

Just as skillful leaders are recommended for positive outcomes in youth programmes (Larson, Walker, & Pearce, 2005; Roth & Brooks-Gunn, 2003a), the role of the coach is seen as a central one to the success of establishing character through sport (Camiré, Forneris, Trudel, & Bernard, 2011; Weiss et al., 2012). Research has explored whether coaches intentionally incorporate character as a concept and plan strategies for

its development, and evidence suggests that this can be the case (Vella, Oades, & Crowe, 2011). Approaches to fostering character development vary from explicit instruction to subtler methods such as modelling desired behaviours (Davidson & Moran-Miller, 2005; Newman, & Alvarez, 2015; Watson, Connole, & Kadushin, 2011), and this may extend to behaviours by coaches both on and off the court, field, or rink (Bolter & Weiss, 2012; Davidson & Moran-Miller, 2005).

Adolescent sport participants have been found to be able to identify a range of coaching behaviours performed with the goal of demonstrating and creating an environment for the practice of characterful behaviours, and can also recognise behaviours which undermine the process of character development, such as coaches being critical, shouting, or condoning illegal tactics (Bolter & Weiss, 2012; Chandler & Goldberg, 1990). At the same time, research strategies and definitions must match the developmental capabilities of the adolescents in each programme. Difficulties encountered by young participants in differentiating between concepts under investigation have been reported (Jones, Dunn, Holt, Sullivan, & Bloom, 2011). Similarly, terminology that is too technical and close to the world of the researcher may not resonate with youth, limiting its usefulness when collecting data or when used in programmes (Bolter & Weiss, 2012).

However, there seems to be almost no equivalent emphasis on fostering character development within music ECAs. Few studies have explored music activities as a context for character development (e.g. Barrett & Bond, 2015) and there appears to be little conceptualisation of the way this would be operationalised or assessed. For example, if a member of a sport team did not attend practice, this could be seen as

showing poor character in terms of honouring a commitment and may draw comment from the coach. If a youth musician did not attend rehearsal, the same sentiment may be felt by fellow band members and the director, but the opportunity to use this situation to improve characterful behaviour may be overlooked and lost. Research is required to assess the level of character development in music programmes, and to identify opportunities to include and promote it. This presents the possibility to improve the quality of music programmes and to transform such settings to include greater facilitation of PYD. Aside from increasing opportunities to gain the potential benefits of PYD to adolescent musicians, if music ECAs were able to demonstrate their effectiveness as settings for PYD, this may enhance society's view of their value both recreationally and educationally.

Building on Study 1, the goal of the Study 2 was to explore the relationship between ECA participation and character. Specifically, adolescents' involvement in music and sports activities was assessed, along with opportunities for character development. ECA participation was measured in terms of the breadth, duration, and frequency of participation and practice, as well as self-reported perceptions of skill and experience.

Character was operationalised in terms of the PYD 5C definition, comprising personal values, social conscience, valuation of diversity, conduct and behaviour (Geldhof, et al., 2013). Several other positive behaviours were also used to represent character. The first of these was grit, which combines passion with perseverance (Duckworth et al., 2007). Problem solving, honesty and trustworthiness, and emotional stability, from the *Self-Description Questionnaire III (SDQ III)* (Marsh, 1992) were also

assessed. Problem solving was chosen as it implies the use of initiative and agency (Larson, 2000) and may be applicable for adolescents who need to balance ECA participation with the demands of school and part-time work. Honesty and trustworthiness was chosen as an indicator of integrity and personal authenticity. As adolescents interact with peers and adults, these attributes may contribute towards establishing personal reliability. Emotional stability was selected as skills in self-control have been proposed as supportive of PYD and may underlie positive qualities guiding individual values and behaviour.

Given that previous research suggests that ECA participation offers an environment for PYD, including for the C of character (Lerner, R. M., Lerner, J., et al., 2005), it was expected that higher levels of participation in either sport or music ECAs would predict higher ratings for the character variables and well-being. Specifically, it was expected that levels of ECA participation would be positively associated with ratings of character and well-being. Ratings of perceived skill and experience were also anticipated to be positively related to ratings of character and well-being.

PYD theory proposes that involvement in ECAs promotes character development but it has not differentiated between particular types of activity. However, sport and music present different content and experiences and so, while it was expected that sport or music participation would predict outcomes of character and well-being, a cautious approach was taken with respect to expectations for the influence of activity type. Based on the results of Study 1, it was expected that, for participants who identified sport as their most important activity, higher levels of ECA participation would be positively associated with character and well-being outcomes. Study 1 did not find an association

between music ECAs and character, and previous research to date does not present a clear foundation on which to set expectations for each activity type, element of ECA involvement, or outcome. However, the proposed outcomes representing character, it can be argued, could be related to sport or music participation, and therefore, it was expected that results for music ECA participation would generally parallel those for sport participation. For example, previous research has found sport and music participation are associated with the Five C definition character (Barrett & Bond, 2015; Vella et al., 2011), so it was also expected that higher levels of music participation would be associated with higher character ratings for the participants who chose music as their most important activity. Similarly, learning the skills required for sport or music activities suggests passion and perseverance, the component qualities of grit (Duckworth et al., 2007), so higher levels of sport or music involvement were expected to relate to higher levels of reported grit for both the sport and music participants.

The qualities of honesty and trustworthiness, problem solving, and emotional regulation have been identified as components of PYD (Larson, 2011) and would be beneficial in the social and collaborative environments found in sport and music ECA settings. Sport participation was related to temperance in Study 1, and has been associated with emotional regulation (Larson et al., 2006), so a positive relation between sport or music participation and emotional stability was expected. Positive associations with character and well-being were also expected with problem solving, honesty and trustworthiness and ECA participation, for sport and music participants.

Personality

In terms of previous psychological research, explorations of character and personality have been considered separately, with personality research generally more prominent (Leonard, 1997). Recently, however, character has again come to attention, particularly in the context of PYD (Lerner, R. M., Lerner, J., et al., 2005) and also relation to personality (Fleeson et al., 2014). Nonetheless, personality has been conspicuously absent from much of PYD research. This is surprising, given the underlying theoretical perspective of developmental contextualism in which individuals interact and respond to their environment (Lerner, R. M., 1991), as well as research evidence that personality predicts indices of adolescent well-being (Butkovic, Brkovic, & Bratko, 2012), and does so better than ECA involvement (Trainor, Delfabbro, Anderson, & Winefield, 2010).

Previous research has indicated positive associations between a range of sport activities and extraversion, agreeableness, conscientiousness and openness to experience, while neuroticism has been found negatively related (Allen, Greenlees, & Jones, 2013). Personality has also had a consistent presence in music research in a wide range of areas such as preferences (Chamorro-Premuzic, Fagan, & Furnham, 2010; Delsing, Ter Bogt, Engels, & Meeus, 2008), the effects of repeated listening (Hunter & Schellenberg, 2011), uses in daily life (Chamorro-Premuzic, & Furnham, 2007), enrolment in music lessons (Corrigall & Schellenberg, 2015), and civic activism (Leung & Kier, 2008). In addition, neuroticism and conscientiousness have been, respectively, negatively and positively associated with the propensity to experience flow, albeit in the context of daily activities (Ullén et al., 2012).

Associations between sport ECA participation and character were found in Study 1 but a similar relation between music and character was not, despite the fact that the motivations to participate in music were related to character. It is possible that adolescents in sport and music activities differ in some, as yet, untested variable; or that they may interact with the activity contexts differently. In order to investigate this further, the personality dimensions of the Big Five (Goldberg, 1993) were assessed. Accordingly, participants' ratings of extraversion, agreeableness, conscientiousness, and openness to experience were expected to be positively associated with indices of the quality of ECA participation and PYD outcomes; and neuroticism was expected to be negatively related.

Quality of ECA experience

Given that adolescents are in a process of self-discovery and learning about their social environment in general, it seems unlikely that they would be passive in response to ECA participation (Dworkin, Larson, & Hansen, 2003; Ramey & Rose-Krasnor, 2011). Previous research has explored the ways, and the extent to which, adolescents become involved with their ECAs, including the experiences of engagement, flow, and enjoyment (Adachi & Willoughby, 2014; Csikszentmihalyi & LeFevre, 1989; Hansen et al., 2003; Larson, 2000). In general, engaged and enjoyable experiences have been found to support outcomes with respect to PYD and well-being (Adachi & Willoughby, 2014; Dworkin et al., 2003; Martin & Jackson, 2008; Ramey et al., 2015).

Engagement. Engagement, defined by Shernoff and Vandell (2007) as a combination of "concentration, enjoyment, and interest", has been identified as an important element in activities that are meaningful and interesting for youth (Ramey et

al., 2015), and as a factor that fosters adolescents' self-determination (Dworkin et al., 2003). Engagement in ECA sport has been found to enhance PYD outcomes (Ramey et al., 2015) but music has received less research attention in this area and there is greater disparity in the findings. For example, young musicians have felt a combined sense of purpose, appreciated expression and challenge, and responded positively to the opportunities for personal and social development in their activities (Barrett & Smigiel, 2007; Campbell et al., 2007; Parker, 2011), although negative findings associations have also been reported, such as between creative arts participation and meaningfulness (Bundick, 2011).

In order to encompass the possibility of both positive and negative experiences encountered during sport and music ECA participation, the *Youth Experiences Survey (YES) 2.0* (Hansen et al., 2003), was used in Study 2. This presents a number of scales which cover positive aspects of ECA involvement, such as initiative and teamwork, and also negative elements, such as negative peer influence and social exclusion (Hansen et al., 2003).

Enjoyment. Given the importance accorded to adolescents' participation in ECAs, it is somewhat surprising that enjoyment is a relatively under-investigated component (Adachi & Willoughby, 2014). Enjoyment is often described in conjunction with engagement (Fraser-Thomas et al, 2005) and flow (Wrigley & Emmerson, 2011), but few studies have explored the experience or outcomes of enjoyment in ECA or PYD settings. However, enjoyment in sport activities has been found to be associated with self-esteem in a bidirectional effect, so that greater enjoyment of sport predicted self-esteem and vice versa (Adachi & Willoughby, 2014); and, correspondingly, females who

have lower levels of enjoyment from sport activities, may experience reduced self-esteem (Shaffer, & Wittes, 2006). Participants' experience of enjoyment was assessed using a one item scale, the *Enjoyment Measure* (Adachi & Willoughby, 2014).

Flow. Flow, defined as a state of attentional absorption when the challenge of an activity matches an individual's intrinsic motivation and capacity to accomplish it (Csikszentmihalyi & LeFevre, 1989), appears to be closely allied with engagement, in that both may occur during a range of activities, including sport and music (Wrigley & Emmerson, 2011). Flow is distinguished by an intense sense of concentrated immersion in an activity, such that awareness of the immediate environment, time, and daily concerns seem to disappear from mind (Bakker, Oerlemans, Demerouti, Slot, & Ali., 2011).

Flow experiences for youth have been reported in a range of settings, including sport (Bakker et al., 2011), music (Bakker, 2005; Martin & Jackson, 2008; Sinnamon, Moran, & O'Connell, 2012), and performing arts activities (Trayes, Harré, & Overall, 2012). Individual differences in personality have been linked with the propensity to experience flow, with neuroticism found to be a negative predictor, and conscientiousness a positive predictor (Ullén et al., 2012). Many ECAs occur in team or group settings and flow has been found to be transferable across team members (Bakker et al., 2011), and communicated between music teachers and students (Bakker, 2005). High rates of flow have been reported by both elite and recreational youth musicians (Sinnamon et al., 2012) but the experience of flow may be absent or diminished under conditions of evaluation such as music examinations (Wrigley & Emmerson, 2011).

Given that flow tends to be experienced in a spontaneous and ephemeral way, assessment can present considerable challenges (Csikszentmihalyi, 1992). Previous studies have typically used either observation with child populations (Custodero, 2005) or, with youth and adult participants, experience sampling (Moneta & Csikszentmihalyi, 1996) or retrospective methods (Sinnamon et al., 2012; Wrigley & Emmerson, 2011). In this study, flow was assessed in two ways, both of which were intended to capture participants' experience of flow. The *Short Flow Scale* (Martin & Jackson, 2008) asks about the behaviours and feelings of flow as they pertain to involvement in an activity, and the *Core Flow Scale* (Martin & Jackson, 2008) asks participants about the personal sensations experienced while in a flow state.

The quality of the adolescents' experience in ECAs has also been found to influence PYD outcomes (Adachi & Willoughby, 2014; Dworkin et al., 2003 Martin & Jackson, 2008; Ramey et al., 2015), and this was examined in this study. First, it was expected that indicators of experiences encountered during participation would be significant predictors of character and well-being, such that positive engagement, enjoyment, and flow would be positively related, whereas negative engagement would be a negative predictor. Secondly, it was expected that the quality of ECA experience would moderate relations between ECA participation and character and well-being, so that positive experiences (e.g. positive engagement, enjoyment, and flow) would enhance the relationship and negative experiences (e.g., negative engagement) would reduce the effects.

Flourishing

The overall purpose of PYD is to support adolescents to become valued and valuable members of society at large, and the experiences gained through a range of developmentally appropriate activities are directed towards fostering a sense of capability and well-being in youth (Larson & Wood, 2006). Flourishing is one conceptual description of this outcome and includes perceptions of achievement in contributing to, and participating in, life in a self-directed and authentic way (Diener et al., 2010). Individuals who are flourishing report enjoying life and participating meaningfully in it, described as a high level balance between hedonia and eudonia (Keyes & Annas, 2009). Participants' sense of well-being was assessed using the *Flourishing Scale* (Diener et al., 2010), which assesses aspects of daily life and personal perceptions about them.

The experiences gained through ECA participation are understood to support PYD and well-being. Accordingly, it was expected that greater ECA participation on the basis of breadth, duration and frequency, as well as perceived skills and experience, would predict flourishing. In terms of ECA experiences, it was expected that positive engagement, enjoyment, and flow would enhance associations with flourishing, while negative engagement would lessen the association.

Demographic information.

Adolescent ECA participation in sport or music requires parental support in terms of awareness of options, possible benefits, and financial resources to provide lessons and equipment. Additionally, for interpretation and generalisability of results, it is important to capture a sense of the representative nature of the sample in terms of age, gender, and socioeconomic status (SES). In order to assess the demographic factors represented by

the sample, participants were asked to provide information about age and gender. They were also asked to respond to proxy questions about parental levels of education, whether the family home was owned or rented, and whether their family was less, equal, or more financially well-off than those around them. The use of proxy questions was chosen as participants may not have been aware of precise levels of parental income during their adolescent years.

Thus, the current research had two main goals: first, to explore the associations between sport or music ECA involvement and indices of character and well-being; and second, to investigate the quality of experiences encountered during participation and the potential moderation of relations between ECA participation and character and well-being. University students who had been involved in either sport or music ECAs during their adolescence were recruited to take part in the study. In order to obtain responses that would permit the examination of outcomes of either sport or music ECA involvement, participants were asked to think about their most important ECA (i.e., only sport or only music) while responding to questions about the level of activity involvement, their personality, the quality of experiences encountered within the activity, and their sense of well-being.

Study 2 - Method

Recruitment

Participants were students at a Canadian University who, following approval by the Research Ethics Board, were recruited through one of three phases; first during a summer term to pilot the most recent version of the questionnaire, a second during the subsequent fall term, and a final phase, in the same term, to recruit additional music

participants. Participants who were recruited via the University's online data collection system were compensated with a grade enhancement in one course if they chose to participate. Thirty-three of the sports participants were recruited through the varsity athletics programme, and of the music participants, 13 were recruited from first year students in the music programme. Participants recruited by this route were provided with a link to the study via an email sent by their respective departments. These participants were not able to claim grade credit enhancement and so were entered into a draw for a \$50 gift certificate (one for each participant group).

The recruitment letter explained to potential participants the compensation framework, the safeguards that would be taken to protect their personal and research data, and the points of contact for additional information. Potential participants were informed that their participation was entirely voluntary, would not affect their university grades, and that they could withdraw from the study without explanation or penalty. Deletion of research data could also be requested. They were further advised that answering questions about their opinions about ECA participation, and/or other personal life choices, might cause mild emotional discomfort.

Participants indicated whether they agreed to participate by clicking on the appropriate website button after reading the information on the consent form. They also indicated whether they would like to receive a summary of the study results (see Appendix G). Those who declined were thanked and exited the survey website via a debriefing statement (see Appendix H). Those who agreed proceeded to the survey hosted by Qualtrics in order to respond to the questionnaires. Before exiting the survey,

participants were thanked and a debriefing statement about the purpose of the study was presented (see Appendix I).

Measures

Participants were presented with a series of questionnaires online which asked about their personal characteristics, recreational activities, interests and experiences, opportunities for learning, level of enjoyment and engagement, as well as PYD and character outcomes, and demographic information.

ECA participation

The Extra-Curricular Activities Questionnaire (Bowker et al., 2003) was designed to assess participation in ECAs, with respect to number and type of activity, and the circumstances and duration of involvement. Specifically, participants could list up to a maximum of six activities. A phenomenological approach was taken with respect to the definition of sport and music activities, to ensure that participants were able to nominate the activities that were meaningful for them, and subsequently select the most important activity (Dworkin et al., 2003). Having chosen the one, most important music or sport activity, participants were asked to think about that activity when responding to the rest of the survey. Doing this, they were asked to indicate the number of days per week and hours per week they participated in the activity, and practiced or rehearsed. They were also asked to rate their own level of skill and the level of their overall experience in the activity from *none* to *expert* (see Appendix J). Participants' responses to the numbers and types of sport and music activity were coded as *1 = activity, 0 = no activity*. A new variable, *total activities* was created by summing the number of relevant responses.

Personality

Participants completed the self-report *Big Five Inventory* (John et al., 2008) which assesses personality. Using a 5 point Likert scale ranging from *1 = disagree strongly* to *5 agree strongly*, participants were asked to indicate the extent that 44 statements applied to them. The items include reverse scored questions and covered five factors of personality: extraversion, 8 items, e.g., "Is full of energy"; agreeableness, 9 items, e.g., "Starts quarrels with others", reverse scored; conscientiousness, 9 items, e.g., "Is a reliable worker"; neuroticism, 8 items, e.g., "Worries a lot"; and openness, 10 items, e.g., "Has few artistic interests", reversed scored. Reverse scored items were recoded and mean scale scores were calculated to produce a score for each of the personality factors. Reliability for the measure was Cronbach's alpha = .99. Cronbach's alpha for each of the factors was as follows: extraversion = .82; agreeableness = .77; conscientiousness = .75; neuroticism = .84; openness = .73. (See Appendix K).

Experiences in ECAs

Engagement. *The Youth Experiences Survey (YES) 2.0* (Hansen et al., 2003) self-report measure assesses ECA involvement with respect to positive and negative experiences and developmental opportunities. In terms of positive experiences, the measure is composed of one scale each for the domains of identity, initiative, basic skills, teamwork and social skills, positive relationships, and adult networks and social capital. There are a further five scales which ask about the negative experiences of stress, inappropriate adult behaviour, negative influence, social exclusion, and negative group dynamics. In this study, one item, "youth in this activity got me into drinking alcohol or using drugs" was omitted due to concerns about acceptability for ethics approval. The

items for inappropriate adult behaviour were also omitted as these did not pertain to the purpose of the study. Using a 4 point Likert scale anchored with the points, *1 = not at all, 2 = a little, 3 = quite a bit, 4 = yes, definitely*, participants indicated the extent to which their experience agreed with 65 statements, e.g., "Tried a new way of acting around people", from the Identity Exploration scale, and "Felt pressured by peers to do something I didn't want to do", from the negative peer influences scale (see Appendix L).

In order to reduce the number of variables in the YES measures, factor analysis was conducted. However, principle components analysis without and with varimax rotation produced an uninterpretable three factor solution. Instead, because all positive items were positively and significantly correlated, as were the negative items, two new mean variables were computed: *positive engagement* (Cronbach's alpha = .89), and *negative engagement*. (Cronbach's alpha = .87).

Enjoyment. To assess enjoyment in the ECA activity, participants responded to the single item *Enjoyment Measure* (Adachi & Willoughby, 2014), "How often do you enjoy participating in your activity?", using a Likert scale which ranged from *1 = never* to *5 = every time* (see Appendix M).

Short Flow. The *Short Flow Scale* (Martin & Jackson, 2008) taps into the experience of flow when engaged intently in an activity. Participants responded to 9 items, e.g., 'I am completely focused on the task at hand', and I have a feeling of total control", using a 7 point Likert scale, anchored between *1 = strongly agree* and *7 = strongly disagree*. A new variable, *short flow* was created using the mean scores of the scale, Cronbach's alpha = .89 (see Appendix N).

Core Flow. The *Core Flow Scale* (Martin & Jackson, 2008) assesses the state of flow as experienced by an individual. Participants indicated the applicability of 10 items, e.g., “I am ‘in the zone’”, or “It feels like ‘everything clicks’” using a Likert scale ranging from 1 = strongly disagree to 7 = strongly agree. The scale showed good reliability (Cronbach’s alpha = .96) and a new variable, *core flow*, was created using the mean scores of the scale (see Appendix O).

Measures of Character

Character. The *PYD Short Form: Older Adolescents* (Geldhof, et al., 2013) scale was devised to provide a short measure to assess the Five Cs (competence, confidence, character, connection, and caring) of PYD. For this study, only the character scale was used which consisted of 20 items taken from the Search Institute Profiles of Student Life-Attitudes and Behaviors (PSL-AB) scale (Benson et al. 1998; Leffert, Benson, Scales, Sharma, Drake, & Blyth, 1998) and the Self-Perception Profile for Adolescents (Harter, 1988). Participants indicated on a 5 point Likert scale (*1 = not important, 2 = somewhat important, 3 = not sure, 4 = quite important, 5 = extremely important*) the importance to them of items from the PSL-AB covering their social conscience, e.g., “Helping to make the world a better place to live in, and their personal values, e.g., “Doing what I believe is right even if my friends make fun of me”. Similarly, they indicated the Likert scale ratings (*1 = strongly disagree, 2 = disagree, 3 = not sure, 4 = agree, 5 = strongly agree*) they felt others would give them on their valuation of diversity, e.g., “Enjoying being with people who are of a different race than I am”. Using the format of the Self-Perception Profile for Adolescents (Harter, 1988), participants indicated which of two possible statements about their conduct and

behaviour best described them, e.g., "Some teenagers usually act the way they know they are supposed to BUT Other teenagers often don't act the way they are supposed to", and then indicated the degree that this was the case (i.e., *really true for me* or *sort of true for me*) (see Appendix P).

The character Likert scales had different numbers of anchor points; namely, four points for items taken from the Harter scale for confidence and five points for the items from the PSL-AB scale. Scale adjustments have been found to be successful using transformations (see Holmes & Mergen, 2014) and methods described in the SPSS programme seemed the most parsimonious (IBM Support. n.d.). Thus, the items from the Harter scale were transformed to conform to the five-point scale using the method proposed by SPSS (IBM Support. n.d.). Scale reliability was checked using the untransformed and transformed data and remained essentially unchanged, Cronbach's alpha = .74 for the untransformed, and .71 for the transformed items. A new variable was computed for character by summing the respective scale items,

Grit. The *Short Grit Scale* (Duckworth & Quinn, 2009) measures participants' ability to continue to pursue a goal over the long term. Grit combines two components, perseverance and passion, and the scale assesses this over 8 items. Four items are reverse-scored and pertain to passion, e.g., "New ideas and projects sometimes distract me from previous ones". The remaining four items represent perseverance, e.g., "Setbacks don't discourage me". Participants responded from *1 = not at all like me* to *5 = very much like me* on a Likert scale. Cronbach's alpha for the items = .79. A grit variable was created using the mean of scores across perseverance and passion, with

higher scores representing greater grittiness (Duckworth & Quinn, 2009). $M = 3.21$, $SD = .69$ (see Appendix Q).

Other indices of character. The *Self-Description Questionnaire III (SDQ III)* (Marsh, 1992) assesses self-perceptions held by older adolescents and young adults across a variety of domains. Each domain is represented by a scale which can be administered separately. Participants responded to items, some reverse-scored, using a Likert scale ranging between 1 = *definitely false* to 8 = *definitely true*. Three scales were used: the *Problem Solving* scale, e.g., "I can often see better ways of doing routine tasks", (see Appendix R); the *Honesty and Trustworthiness* scale, e.g., "I would feel OK about cheating on a test as long as I did not get caught" (item reverse scored) (see Appendix S); and the *Emotional Stability* scale, e.g., "I do not spend a lot of time worrying about things" (see Appendix T). Cronbach's alphas were acceptable to good for all three scales: problem solving = .78; honesty and trustworthiness = .78; and emotional stability = .87. Three variables were created, one for each scale, using the mean scores.

Well-being

The *Flourishing Scale* (Diener et al., 2010) was presented to participants to assess their sense of well-being. Responses to 8 items, e.g., "I am engaged and interested in my daily activities", were indicated on a Likert scale ranging from 1 = *strongly disagree* to 7 = *strongly agree*. Reliability for the items was good, Cronbach's alpha = .92 (see Appendix U). A summary variable for flourishing was created by totalling the scores.

Demographic information

Participants were asked to provide basic information about their age and gender, as well as respond to questions which served as proxy indicators of socio-economic status

(SES), about the level of education of both parents, whether their family owned or rented a home, and the family's economic standing as compared with those of their peers (see Appendix V). Proxy questions to represent SES have been used in previous research (Findlay & Coplan, 2016).

Study 2 - Results

Data analyses

The main purpose of the Study 2 was to examine the relationship between ECA participation as they pertained to either sport or music activities, and measures of character and well-being. Of additional interest were the possible moderating effects of the quality of the ECA experience. Characteristics of general ECA participation included activity type (sport or music) and breadth of participation (total number of ECAs). For participants' most important ECA, frequency of participation (e.g., days per week, hours per week of practice), duration of participation (in years), and perceived levels of skills and experience were explored. Indicators of the quality of the ECA experience included positive engagement, negative engagement, level of enjoyment, and flow experiences (Adachi & Willoughby, 2014; Hansen et al., 2003; Martin & Jackson, 2008). Outcome variables included character, using the Five Cs PYD model (Geldhof, et al, 2013); grit (Duckworth et al., 2007); honesty and trustworthiness, problem solving, and emotional stability (Marsh, 1992); and flourishing (Diener et al., 2010).

The data were examined using descriptive statistics, including a comparison of music and sport participants. Correlation analyses were used to explore the associations between ECA involvement, the quality of experiences during participation, and the outcomes of character and well-being. Regression analyses were undertaken to establish whether ECA involvement (sport or music) predicted character and well-being, to test whether the quality of ECA experiences also predicted character and well-being, and to test whether there were interactions between ECA involvement and the quality of experience and engagement found by participants during involvement.

Examination of the data

Participant characteristics. Descriptive statistics, chi-square analysis, and MANOVA were used to explore characteristics of the sport and music groups. The Pearson Chi-square statistic was reported except in instances where there were fewer than five cases per cell, when Fisher's exact test was used.

Although 722 students agreed to participate, the size of the sample was reduced to $N = 470$ after removal of cases where no or minimal data was completed or where participants' age exceeded the planned range of 17-25 years. The sport and music participants recruited through university departments were reduced to 15 sport varsity athletes and four music students following removal of cases with no completed data. Online recruitment was open to all students enrolled in several particular psychology courses for a small enhancement of course credit and was thus vulnerable to a) students above the age requirement participating, and b) students registering to claim the credit but omitting to complete the questionnaires.

Missing data. All variables had less than 5% missing data with the exception of Activity years, of which 10.9% was missing.

Data normality. The data were examined for normality and for highly correlated items. Several of the ECA and demographics variables displayed some skew & kurtosis. As the available range of responses was restricted and the responses were used in summary variables, no action was taken to transform the data. No outliers were found as the range of most responses was restricted within Likert scales.

Correlations. Bivariate correlation analysis revealed several pairs of highly correlated variables. Number of days participate per week and number of hours

participate per week correlated at $r = .624, p = <.001$. Similarly, level of perceived skills and perceived experience level were highly correlated, $r = .884, p = <.001$. Finally, short flow and core flow showed a high correlation, $r = .768, p = <.001$. Hours participation per week, level of perceived skills, and core flow were dropped from further analysis to avoid issues with multicollinearity. Correlations for the remaining variables are shown

Table 7.

Table

Correlations for ECA Participation, Personality, Quality of ECA Experience, Character Outcomes, and Well-being

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1. TA	-	-.04	.13	.12	.04	.12	.01	.05	.13	-.04	.12	.13	.13	-.13	.08
2. AY	.10	-	.15	.11	.56**	.12	-.08	.22**	.17*	.07	.05	.08	.10	.01	.12
3. FP	.13*	.21**	-	.45**	.30**	.23**	-.08	.27**	.13	.17*	.09	.15*	.14*	-.02	.20**
4. FR	.16**	.19**	.48**	-	.29**	.42**	.04	.23**	.26**	.20**	.14	.19**	.13	.03	.20**
5. EL	.10	.53**	.26**	.28**	-	.18*	-.13	.23**	.27**	.12	.19**	.20**	.16*	-.15*	.12
6. PE	.20**	.18**	.39**	.28**	.32**	-	.46**	.21**	.48**	.24**	.09	.12	-.00	.29**	.23**
7. NE	.16**	.02	.07	.15*	.07	.30**	-	-.08	.05	-.10	-.04	-.27**	-.50**	.46**	-.10
8. E	.04	.06	-.04	-.08	.06	.11	-.31**	-	.35**	.29**	.04	.27**	.23**	.07	.20**
9. F	.14*	.25**	.22**	.10	.34**	.48**	-.13*	.35**	-	.33**	.11	.30**	.31**	.27**	.39**
10. C	.19**	-.08	.13*	.04	.03	.20**	-.07	.19**	.20**	-	.01	.29**	.36**	.15*	.31**
11. G	.05	.18**	.18**	.11	.15*	.18**	-.13*	.19**	.21**	.12	-	.39**	.25**	-.09	.36**
12. PS	.15*	-.05	.10	.00	.07	.21**	-.13*	.21**	.34**	.38**	.28**	-	.41**	-.15*	.34**
13. HT	.05	.18**	.07	.01	.14*	.07	-.40**	.09	.25**	.13*	.33**	.23**	-	-.15*	.38**
14. ES	.13*	-.21**	.01	-.01	-.01	.14	.30**	-.07	.03	.09	-.12	-.04	-.08	-	-.03
15. Fl	.12	.12	.20**	.01	.17**	.28**	-.23**	.14*	.37**	.19**	.34**	.30**	.47**	.23**	-

Note: Correlations for the music group are presented above the diagonal, and correlations for the sport group are presented below the diagonal. *Correlation is significant at the 0.05n level (2-tailed). **Correlation is significant at the 0.01 level (2-tailed). TA = Total Activities; AY = Activity years; FP = Frequency of Participation; FR = Frequency of Practice/Rehearsal; EL = Perceived Experience Level; PE = Positive Engagement; NE = Negative Engagement; E = Enjoyment; F = Flow; C = Character; G = Grit; PS = Problem Solving; HT = Honesty & Trustworthiness; ES = Emotional Stability; Fl = Flourishing.

ADOLESCENTS' MUSIC PARTICIPATION AND CHARACTER DEVELOPMENT

New variables. Two new variables were created: *total activities*, by summing the number of relevant responses (total activities $M = 3.58$, $SD = 2.30$), and *activity type*, which indicated whether participants had nominated sport or music as their preferred activity.

Demographic variables.

Of the 470 participants, 304 (64.6%) identified as female, 146 (32.4%) identified as male, while no indication was made by 20 (4.3%) of the participants. Of the 260 participants who chose sport as the most important ECA participants (henceforth referred to as the *sport group*), 190 (73.1%) identified as female and 70 (26.9%) as male. Of the 190 participants who selected music as their most important ECA (the *music group*), 114 (60.0%) identified as female, 76 (40.0%) as male. A significant relationship was found between gender and activity type whereby more females than males reported participation in music, and more females than males reported participation in sport, $\chi^2(1, N = 450) = 8.565, p = .003$. Age ranged from 18 to 25 years ($M = 20.50$, $SD = 1.59$) and no significant difference was found for age between the sport and music groups, Fisher's exact test $\chi^2(N = 404) = 6.829, p = .448$.

Indicators of SES. Four questions were used as indicators of SES. The first two asked about levels of parental education. Mothers' highest level of education was reported by 260 participants from the sport group and 191 of the music group. Chi square analysis found no significant difference in maternal education level reported by the sport and music groups, Fisher's exact test $\chi^2(N = 451) = 9.176, p = .161$. Fathers' highest level of education was reported by 261 of the sport group and by 191 of the music group and no significant difference was found for fathers' highest level of education

between activity groups, $X^2 (6, N = 451) = 9.176, p = .161$. Third, participants were asked if the childhood home had been owned or rented. Responses by 261 sport and 190 music participants revealed that the majority (81.4%) of the overall sample lived in an owned home. A higher proportion than expected of the sport group (61.6%) lived in an owned home versus the music group (38.4%), whereas a higher proportion of the music group (53%) than the sport group (47.0%) lived in a rented home, Fisher's exact test $X^2 (N = 451) = 14.869, p = .001$. In response to the fourth SES proxy question, 260 sport and 191 music participants indicated the extent to which their family was as well-off as others. A non-significant result was found, Fisher's exact test $X^2 (N = 451) = 7.672, p = .171$.

Two significant results were found using Chi-square analysis. First, the results indicate that the choice of most important activity resulted in unequal proportions of males and females in the sport and music groups. Gender was included in subsequent analyses and is discussed below. Second, differences were indicated in whether the home was rented or owned on the basis of activity type. Correlational analyses were used to investigate associations between variables that differed by activity type (i.e., home ownership status) with the indices of character and well-being. No significant correlations were revealed; thus this variable was not included in subsequent analyses.

ECA participation

Overall, sport participation was reported by 441 (93.8%) of the sample and 282 (60%) reported involvement in music activities. Sport was chosen as the most important ECA by 276 (58.7%) participants; thus 194 (41.3%) participants selected music activities. Of the participants in the sport group, 120 (43.5%) also reported involvement in music

activities (156 did not report music activities). Of participants who chose music as their most important activity, 170 (87.6%) also reported sport ECA participation (24 did not report sport participation). Chi-square analysis showed there was no relation between activity choice and participation in the other ECA type, Fisher's exact test $X^2 (N = 282) = 8.607, p = .116$, for the music participation; and Fisher's exact test, $X^2 (N = 170) = 6.566, p = .254$, for sport participation.

One-way MANOVA was used to investigate differences in ECA participation on the basis of activity type (Table 8 presents means and standard deviations). There was a significant main effect of activity type, $F(5, 408) = 15.94, p < .001, \eta^2 = .16$. The music group reported greater breadth as they participated in more sport and music ECAs than the sport group, $F(1, 412) = 11.55, p = .001, \eta^2 = .03$. The sport group reported more years spent in their chosen activity type (sport) than the music group had in their chosen activity type (music), $F(1, 412) = 24.81, p < .001, \eta^2 = .06$. The sport group also rated their perceived experience level higher than the music group did, $F(1, 412) = 59.23, p < .001, \eta^2 = .13$. No significant differences were found for days per week of participation or hours per week of practice between the two groups.

Personality. One-way MANOVA found significant differences between the two groups, $F(5, 463) = 10.83, p < .001, \eta^2 = .11$. Sport group participants reported higher levels of conscientiousness, $F(1, 467) = 38.00, p < .001, \eta^2 = .08$; while the music group reported greater openness to experience, $F(1, 467) = 7.09, p = .008, \eta^2 = .02$. No significant differences were found for extraversion, agreeableness, or neuroticism.

Quality of ECA involvement. Differences for the quality of ECA experience between the sport and music group were tested using one-way MANOVA. A significant

main effect was found $F(4, 450) = 15.71, p <.001, \eta^2 = .12$. The sport group reported higher levels of positive engagement, $F(1, 453) = 17.18, p <.001, \eta^2 = .04$; enjoyment, $F(1, 453) = 29.02, p <.001, \eta^2 = .06$; and flow, $F(1, 453) = 52.05, p <.001, \eta^2 = .10$. Results were non-significant for negative engagement.

Outcome variables

Character variables. The results of one-way MANOVA to test whether participants differed in their ratings of outcome variables as a factor of activity type indicated a significant main effect $F(6, 441) = 4.43, p <.001, \eta^2 = .06$. Sports group participants scored higher than the music group on measures of grit, $F(1, 446) = 12.80, p <.001, \eta^2 = .03$; and honesty and trustworthiness, $F(1, 446) = 6.59, p = .011, \eta^2 = .15$. Non-significant differences were found for character, problem solving, and emotional stability.

Flourishing. Sport participants reported higher flourishing scores than did music participants, $F(1, 446) = 11.60, p = .001, \eta^2 = .03$.

Table 8

Means (SD) for ECA Participation, Personality, Quality of ECA Experience, Character Outcomes, and Flourishing

Variables	Sport group		Music group	
	M (SD)	M (SD)	M (SD)	M (SD)
ECA participation				
M & S Total Activities	3.40	(2.26)	3.85	(2.34)
Activity Years	3.17	(1.02)	2.65	(1.09)
Days per week participate	3.38	(1.75)	3.30	(1.97)
Hours per week practice/rehearse	2.14	(1.17)	2.16	(1.11)
Perceived experience level	3.37	(1.11)	2.30	(1.33)
Personality				
BFI Extraversion mean	3.31	(.73)	3.23	(.70)
BFI Agreeableness mean	3.80	(.58)	3.74	(.61)
BFI Conscientiousness mean	3.65	(.58)	3.32	(.58)
BFI Neuroticism mean	3.00	(.80)	3.00	(.76)
BFI Openness mean	3.38	(.55)	3.53	(.59)

Variables	Sport group		Music group	
	M (SD)	M (SD)	M (SD)	M (SD)
Quality of ECA experience				
Positive engagement	2.61 (.61)		2.36 (.69)	
Negative engagement	1.55 (.55)		1.62 (.70)	
Enjoyment	4.40 (.67)		3.96 (1.06)	
Flow	5.47 (.93)		4.75 (1.18)	
Character variables				
PYD Character	28.17 (4.21)		28.67 (4.30)	
Grit	3.32 (.69)		3.09 (.65)	
Problem solving	5.10 (.98)		5.13 (.97)	
Honesty/Trustworthiness	5.85 (.99)		5.61 (1.01)	
Emotional stability	4.74 (.64)		4.85 (.88)	
Well-being				
Flourishing	44.90 (7.47)		42.53 (8.85)	

Note: * $p < .05$. ** $p < .01$, *** $p < .001$

Regressions

In order to investigate whether ECA participation and activity type, as well as engagement and the quality of experience, predicted character outcome variables and well-being, a series of hierarchical regressions was used. The six ECA variables (i.e., total number of activities; years in specific activity, frequency of participation, frequency of practice, perceived experience level, and activity type – sport or music) were entered at Step 1; the quality of experience and engagement variables (i.e., positive engagement, negative engagement, enjoyment and flow) at Step 2; and the interaction terms between activity type and the quality of experience and engagement variables at Step 3. Table 9 displays the results of these analyses.

Character. At Step 1, frequency of participation (days per week) was a significant and positive predictor of character. At Step 2, positive engagement and enjoyment were both positive predictors. At Step 3, there were no significant interactions between activity type and the quality of experience variables.

Grit. Step 1 revealed activity type as a significant predictor for sport participants indicating that this relationship was stronger for sports participants². At Step 2, positive engagement was a significant and positive predictor; negative engagement was a significant and negative predictor. At Step 3, the interaction of activity type x enjoyment was a significant and negative predictor of grit. Simple slopes analysis revealed that the association between enjoyment and grit differed based on activity type, such that there was a stronger positive relationship between enjoyment and grit for the sport group, $p < .001$.

² Although this was in a negative direction, this was due to the coding used for sport and music activity type.

Problem solving. Total number of activities and perceived experience level were significant positive predictors of problem solving at Step 1. At Step 2, positive engagement and flow were both significant, positive predictors; negative engagement was a significant negative predictor. No significant interactions between activity type and the quality of experience were found at Step 3.

Honesty and Trustworthiness. At Step 1, ECA involvement significantly predicted honesty and trustworthiness, although none of the individual coefficients was significant. Positive engagement and flow were significant positive predictors at Step 2, while negative engagement was a significant negative predictor. At Step 3 no significant interactions were found.

Emotional stability. Emotional stability was not significantly predicted by ECA involvement so this variable was dropped from the analysis.

Flourishing. At Step 1, frequency of participation and activity type were significant predictors of flourishing (sports group participants reported higher levels of flourishing). At Step 2, positive engagement and flow were significant positive predictors of flourishing. Negative engagement was a significant and negative predictor at Step 2. No significant results were found for the interaction terms at Step 3.³

Activity type. A third series of hierarchical multiple regressions was run to test whether character and well-being were predicted by ECA involvement as a function of activity type, as well as by the quality of experience in ECAs. The six ECA variables

³ **Gender.** The regression analyses were repeated to test whether the association between sport or music participation was predicted or moderated by participant gender. Gender was entered with the ECA variables at Step 1, and interaction terms between ECA and gender at Step 2. Step 3 tested the quality of ECA experience, and Step 4 contained interactions terms between these variables and gender. No significant effects of gender were found so this was not included in subsequent analyses.

were entered at Step 1, the interaction terms between activity type and the ECA variables at Step 2, and the quality of experience in ECAs variables at Step 3. Step 1 produced the same results for prediction of character outcomes and well-being. None of the interactions were significant at Step 2, therefore the analyses were stopped at that point.

Table 9

Hierarchical Regression Analysis Predicting Character and Well-being with ECA Participation and Quality of ECA Experience

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Character	1	ECA participation		.05**	
		Total number of activities			.05
		Years in specific activity			-.09
		Frequency of participation			.15*
		Frequency of practice			.03
		Perceived experience level			.10
		Activity type			.06
	2	Quality of Experience	.10	.14***	
		Positive engagement			.18**
		Negative engagement			-.09
		Enjoyment			.17**
		Flow			.11

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Character	3	Interactions	.01	.15	
		Activity type x Positive engagement			.02
		Activity type x Negative engagement			-.02
		Activity type x Enjoyment			.04
		Activity type x Flow			.06

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Grit	1	ECA variables		.06**	
		Total number of activities			.05
		Years in specific activity			.08
		Frequency of participation			.09
		Frequency of practice			.05
		Perceived experience level			.07
		Activity type ^a			-.15**
	2	Quality of Experience	.04	.10**	
		Positive engagement			.14*
		Negative engagement			-.18**
		Enjoyment			-.01
		Flow			.07
	3	Interactions	.03	.12*	
		Activity type x Positive engagement			.01
		Activity type x Negative engagement			.02
		Activity type ^a x Enjoyment			-.19**
		Activity type x Flow			.04

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Problem Solving	1	ECA variables		.05**	
		Total number of activities			.14**
		Years in specific activity			-.08
		Frequency of participation			.06
		Frequency of practice			.01
		Perceived experience level			.14*
		Activity type			.02
	2	Quality of Experience	.15	.20***	
		Positive engagement			.18**
		Negative engagement			-.24***
		Enjoyment			.06
		Flow			.25***
	3	Interactions	.01	.21	
		Activity type x Positive engagement			.01
		Activity type x Negative engagement			-.09
		Activity type x Enjoyment			-.02
		Activity type x Flow			.06

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Honesty & trustworthiness	1	ECA variables		.04*	
		Total number of activities			.03
		Years in specific activity			.11
		Frequency of participation			.04
		Frequency of practice			.02
		Perceived experience level			.08
		Activity type			-.06
	2	Quality of Experience	.24	.28***	
		Positive engagement			.14*
		Negative engagement			-.52***
		Enjoyment			-.06
		Flow			.16**
	3	Interactions	.01	.29	
		Activity type x Positive engagement			-.03
		Activity type x Negative engagement			.02
		Activity type x Enjoyment			.06
		Activity type x Flow			.06

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Flourishing	1	ECA variables		.09***	
		Total number of activities			.08
		Years in specific activity			.04
		Frequency of participation			.19**
		Frequency of practice			-.03
		Perceived experience level			.10
		Activity type ^a			-.15**
	2	Quality of Experience	.14	.23***	
		Positive engagement			.23***
		Negative engagement			-.27***
		Enjoyment			-.04
		Flow			.24***
	3	Interactions	.01	.23	
		Activity type x Positive engagement			-.02
		Activity type x Negative engagement			.05
		Activity type x Enjoyment			-.02
		Activity type x Flow			.07

Note: ^aThe negative value reflects the coding used for sport and music activity type.

* $p < .05$. ** $p < .01$, *** $p < .001$.

Personality. In order to assess the possible influence of personality on the associations between ECA participation, the quality of ECA experience, and character outcomes, a further series of regressions was used. The five personality variables (i.e., extraversion, agreeableness, conscientiousness, neuroticism, and openness) were entered at Step 1, the six ECA variables were entered at Step 2, the four variables for quality of ECA experiences at Step 3, and, at Step 4, the interaction terms between activity type and the quality of ECA experiences. A similar pattern was found in the results across the outcome variables, with factors of personality being significant predictors in the expected directions, the ECA variables no longer being significantly related (except for flourishing), and Step 3 producing significant results for predictions of the quality of ECA experience. At Step 4 there was one significant interaction when activity type by enjoyment predicted. Table 10 presents the results.

Character. Extraversion, agreeableness, and openness were significant positive predictors of character at Step 1; at Step 2, none of the ECA variables was a significant predictor; enjoyment was a significant positive predictor at Step 3; and there were no significant interactions found at Step 4.

Grit. At Step 1, extraversion and conscientiousness were significant positive predictors. Neuroticism significantly and negatively predicted grit. The ECA variables were not significant predictors at Step 2, and the quality of ECA experience variables were not significant predictors at Step 3. A significant interaction was found between activity type by enjoyment at Step 4. Simple slopes analysis revealed the same interaction effect as in the previous analysis, whereby, for the sport group, greater enjoyment enhanced the association between sport participation and grit, $p = .005$.

Problem solving. Problem solving was significantly and positively predicted by conscientiousness and openness, while neuroticism was a significant and negative predictor at Step 1. Step 2 did not produce a significant result for the ECA variables. At Step 3, negative engagement was a significant negative predictor, and flow was a significant positive predictor, of problem solving. There were no significant interactions at Step 4.

Honesty and trustworthiness. At Step 1, agreeableness, conscientiousness, and neuroticism were significant and positive predictors of honesty and trustworthiness. The ECA variables were non-significant at Step 2. At Step 3, negative engagement was found to be a significant negative predictor, and flow was a significant positive predictor. There were no significant interactions at Step 4.

Flourishing. At Step 1, extraversion, agreeableness, and openness were significant and positive predictors, and neuroticism was a significant and negative predictor of flourishing. At Step 2, frequency of participation was a significant predictor of flourishing. Step 3 revealed that positive engagement and short flow were significant and positive predictors of flourishing, while negative engagement predicted significantly and negatively. No significant interactions were found at Step 4.

To summarise, participation in sport and music activities was found to predict character, grit, problem solving, honesty and trustworthiness, and flourishing, albeit weakly. With the exception of grit and flourishing, where sport participants reported significantly higher levels, the type of activity in which participants were involved did not influence the outcomes of participation. The quality of experiences in ECA activities was also found to predict character outcomes and well-being. Of these experiences,

positive engagement positively predicted all the outcome variables; negative engagement was a negative predictor for grit, problem solving, honesty and trustworthiness, and flourishing; and flow positively predicted problem solving, honesty and trustworthiness and flourishing. Enjoyment was a positive predictor of PYD character. Grit was the only outcome variable predicted by an interaction, activity type by enjoyment, in which the sport group demonstrated that higher grit was predicted by greater enjoyment.

Personality was a stronger predictor of the character outcome variables and flourishing than the ECA activities which, with the exception of frequency of participation, were no longer significantly related when personality was included in the analysis. The quality of ECA experience variables of positive- and negative engagement, enjoyment, and flow continued to be significant predictors.

Table 10

Hierarchical Regression Analysis Predicting Character and Well-being from Personality, ECA Participation, and Quality of ECA Experience

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Character	1	Personality		.22***	
		Extraversion			.12*
		Agreeableness			.20***
		Conscientiousness			-.03
		Neuroticism			.07
		Openness			.35***
	2	ECA participation	.01	.23	
		Total number of activities			.02
		Years in specific activity			-.07
		Frequency of participation			.09
		Frequency of practice			-.00
		Perceived experience level			.04
		Activity type			.02

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Character	3	Quality of Experience			
		Positive engagement	.04	.26**	.10
		Negative engagement			-.03
		Enjoyment			.14**
		Flow			.05
	4	Interactions	.00	.27	
		Activity type x Positive engagement			.02
		Activity type x Negative engagement			-.02
		Activity type x Enjoyment			.04
		Activity type x Flow			.06
Grit	1	Personality		.40***	
		Extraversion			.15**
		Agreeableness			-.03
		Conscientiousness			.51***
		Neuroticism			-.20***
		Openness			.02

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Character	3	Quality of Experience			.26**
		Positive engagement			.10
		Negative engagement			-.03
		Enjoyment			.14**
		Flow			.05
	4	Interactions	.00	.27	
		Activity type x Positive engagement			.02
		Activity type x Negative engagement			-.02
		Activity type x Enjoyment			.04
		Activity type x Flow			.06
Grit	1	Personality		.40***	
		Extraversion			.15**
		Agreeableness			-.03
		Conscientiousness			.51***
		Neuroticism			-.20***
		Openness			.02

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Grit	2	ECA participation		.41	
		Total number of activities	.01		.04
		Years in specific activity			.07
		Frequency of participation			.04
		Frequency of practice			.01
		Perceived experience level			-.00
		Activity type			-.01
	3	Quality of Experience	.00	.41	
		Positive engagement			.05
		Negative engagement			-.06
		Enjoyment			-.02
		Flow			-.03
	4	Interactions	.02	.43*	
		Activity type x Positive engagement			.06
		Activity type x Negative engagement			.11
		Activity type ^a x Enjoyment			-.49**
		Activity type x Flow			.10

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Problem solving	1	Personality		.50***	
		Extraversion			.02
		Agreeableness			-.01
		Conscientiousness			.10*
		Neuroticism			-.24***
		Openness			.62***
	2	ECA participation	.01	.51	
		Total number of activities			.07
		Years in specific activity			-.04
		Frequency of participation			-.02
		Frequency of practice			-.04
		Perceived experience level			.05
		Activity type			-.04
	3	Quality of Experience	.04	.55***	
		Positive engagement			.08
		Negative engagement			-.19***
		Enjoyment			.02
		Flow			.12**

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Problem solving	4	Interactions	.00	.55	
		Activity type x Positive engagement			.14
		Activity type x Negative engagement			-.19
		Activity type x Enjoyment			-.06
		Activity type x Flow			.09
Honesty & trustworthiness	1	Personality		.27***	
		Extraversion			.03
		Agreeableness			.37***
		Conscientiousness			.28***
		Neuroticism			.13**
		Openness			.04
	2	ECA participation	.01	.28	
		Total number of activities			.04
		Years in specific activity			.06
		Frequency of participation			.01
		Frequency of practice			.01
		Perceived experience level			.01
		Activity type			.01

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Honesty & trustworthiness	3	Quality of Experience		.41***	
		Positive engagement			.08
		Negative engagement			-.40***
		Enjoyment			-.08
		Flow	.13		.11*
	4	Interactions	.00	.41	
		Activity type x Positive engagement			-.15
		Activity type x Negative engagement			.11
		Activity type x Enjoyment			.11
		Activity type x Flow			.11
Flourishing	1	Personality		.30***	
		Extraversion			.20***
		Agreeableness			.18***
		Conscientiousness			.33***
		Neuroticism			-.02
		Openness			.10*

Outcome Variable	Step	Variable	ΔR^2	R^2	β
Flourishing	2	ECA participation	.02	.33*	
		Total number of activities			.07
		Years in specific activity			-.01
		Frequency of participation			.13*
		Frequency of practice			-.06
		Perceived experience level			.02
		Activity type			-.07
	3	Quality of Experience	.05	.37***	
		Positive engagement			.14*
		Negative engagement			-.16**
		Enjoyment			-.06
		Flow			.16**
	4	Interactions	.01	.38	
		Activity type x Positive engagement			.02
		Activity type x Negative engagement			.27
		Activity type x Enjoyment			-.06
		Activity type x Flow			.19

Note: * $p < .05$. ** $p < .01$, *** $p < .001$.

^aThe negative value reflects the coding used for sport and music activity type.

Study 2 - Discussion

The goal of Study 2 was to investigate adolescent ECA participation in sport or music, and possible associations with the PYD outcomes of character and well-being. Based on the findings of Study 1, the methodology for the assessment of music activities in Study 2 was revised with the intention of gaining comparable information, from which the effects of participation in sport or music could be evaluated. Results from Study 1 showed that the experiences encountered by adolescents in music activities were predictive of indices of character, so Study 2 included measures of positive- and negative engagement, enjoyment, and flow (Adachi & Willoughby, 2014; Hansen et al., 2003; Martin & Jackson, 2008) to explore this earlier finding. Previous research has also suggested that character development may depend less on ECA involvement than on personality, which has been found to be a stronger predictor of indices of character than ECA involvement (Butkovic et al, 2012; Trainor et al, 2010). Therefore, measures of personality were included in Study 2 to investigate this effect. As with Study 1, possible effects of gender were also investigated.

ECA participation

Although participation in either sport or music was a requirement to be in the sample, there was considerable duality reported in ECA participation. Almost all of the sample reported involvement in sports activities and a majority reported music participation. This reflects previous research findings that blending of activities is the typical pattern (Feldman & Matjasko, 2007), and this has been associated with optimal outcomes for PYD (Fredricks & Eccles, 2006b). In order to account for this duality,

participants were asked to think about the one activity (sport or music) that was most important to them while they completed the measures.

The sport group reported a longer duration of participation in their most important activity than the music group, while the music group reported a greater number of activities overall. A possible explanation for this is that sport might typically be the initial choice of ECA enrolment (resulting in longer time in that activity), with the addition of music as a subsequent choice (resulting in a higher number of total activities). Additionally, the longer duration of participation may explain the higher rating of perceived experience level by the sport group.

The sport and music group were also found to differ on several other criteria. In terms of personality, the sports group reported higher conscientiousness and the music group recorded greater openness to experience. The sport group also rated higher positive engagement and enjoyment, and reported higher levels of grit, honesty and trustworthiness, and flourishing.

Character development

Study 2 used several indicators of character which were anticipated to be applicable to outcomes of ECA participation.

Character. The frequency of ECA participation in general, with no differentiation apparent on the basis of sport or music participation, was found to be predictive of the Five C measure of character (Geldhof et al., 2013). Previous research has also found associations between sport participation and character development (Bean et al., 2014; Weiss, 2008) and between music activities and character (Barrett & Bond, 2015). While ECA participation factors such as breadth have been found to relate to

indicators of positive development, in this study participants reported on their experiences in their single most important activity. More frequent participation in these circumstances may support character development through the wealth of opportunity and repetition of involvement, thus enabling youth to benefit through experience (Berkowitz, & Bier, 2004). Future research to investigate the possible mechanisms at work in ECAs as favoured settings would be of value in order to identify factors that influence preferences and the association with outcomes.

The quality of experiences encountered in ECAs was also related to character, with positive engagement positively predicting character. Although the quality of experience did not moderate the relation between ECA participation and character, this finding does suggest that positive experiences contribute towards character development. While this finding did not differentiate on the basis of activity type, this result aligns with previous research suggesting that ECAs which provide engaging experiences can be an important setting for character development (Barrett & Bond, 2015; Ramey et al., 2015).

Character was also positively predicted by the personality dimensions of agreeableness and openness. When controlling for personality, neither sport nor music were predictors but enjoyment was shown to be a significant, positive predictor of character. This offers further evidence that positive experiences encountered while participating in ECA activities may be of value to the overall PYD outcome by building a sense of reward and gratification. Activities that are enjoyable may be more likely to encourage continued participation, thus supporting opportunities for character development over time.

Grit. Sport participation was a positive predictor of grit and, for the sport group, this relation was enhanced by an interaction with higher reported enjoyment. Grit was also positively predicted by extraversion and conscientiousness, and negatively predicted by neuroticism. It may be that youth who are sociable and well-organised experience more enjoyment during sport activities, fostering the perception of passion and making perseverance less arduous, thereby promoting grit.

Although this result and proposed explanation are appealing in terms of sport participation, which emphasises that grit, courage, and dedication are required to participate (Chandler & Goldberg, 1990), it can be argued that the challenge of learning to play an instrument and practicing regularly also requires sustained interest and dedication, which mirror the grit components of passion and perseverance (Duckworth et al., 2007; O'Neill, 2011). Thus, the result that music participation did not predict grit requires further consideration.

It is possible that for adolescent music learners, either passion or perseverance is reduced or missing. For example, an initial enthusiasm to learn to play a musical instrument may have declined into a burdensome obligation to continue (Driscoll, 2009; North et al., 2000). Alternatively, a certain level of capability, once reached, may be considered sufficient, thus negating the perseverance to increase skills and competency. Furthermore, there may be a disparity between the music of personal preference and the music associated with lessons or ECA participation (Campbell et al., 2007; North et al., 2000). Conversely, those in the music group may enjoy playing to the extent that they experience more passion in the activity, which may override the need for perseverance

(Campbell et al., 2007). Future research will be valuable in identifying underlying associations between music ECAs and the factors required to sustain participation.

A further possibility is that ECA music activities are not envisaged or described in terms of grit, which may reduce the perception that this quality is of value or could be incorporated into music involvement. Music learning often occurs in small groups or individually, sometimes with the same teacher for many years. The supportive rapport between student, teacher, and often parents, is an important element in creating a positive learning environment, but there may be less opportunity for youth to exercise individual agency or contribute to the activity (Creech & Hallam, 2011). Even when an adolescent learner exercises agency over lessons, this may not be perceived as contributing to the passion and perseverance that underlie grit. This is an area where further research could enlighten practice in teaching and in recreational music programmes. Additionally, adolescents may benefit in terms of music participation and future skills from the introduction of broader PYD elements to their activities.

Problem solving. The total number of ECA activities and perceived experience level were positive predictors of problem solving. Conscientiousness and openness to experience were also positive predictors, although controlling for personality reduced the contribution of total activities and perceived level of experience to non-significance. Scheduling and managing the demands of more than one activity may foster problem solving skills, possibly supported by traits of conscientiousness and openness. It is possible that these skills may be transferable from one domain to another; and that the diverse expectations and cultures of a range of ECAs may foster perspective-taking across various contexts. Hence, involvement that is satisfying across several activities

could foster the use of strategies such as problem solving in order to continue participation (Feldman & Matjasko, 2007; Fredricks et al., 2002; Fredricks & Eccles, 2006b).

Similarly, the positive result for perceived experience level suggests that ECA involvement can be anticipated to build feelings of personal competence as skills and knowledge about the activity develop. This may allow youth to anticipate the demands from the schedule or the activity itself, assisting them in addressing potential problems. The finding that positive engagement and flow were both positive predictors, whereas negative engagement was a negative predictor; and that negative engagement and flow remained significant predictors when controlling for personality, suggests that rewarding experiences foster the development of skills which support continued participation, and that negative experiences may undermine this process (Larson, et al., 2004). Further research into the building and transfer of skills across domains could strengthen understanding of the functional mechanisms proposed in PYD, and provide evidence to guide future PYD programmes.

Honesty and trustworthiness. ECA participation in general predicted honesty and trustworthiness; as did the personality dimensions of agreeableness, conscientiousness, and neuroticism. Participation in organised ECAs typically involves interactions with others such as peers and leaders and such contexts are likely to demand and foster personal behaviours which are authentic, and indicate reliability and integrity. Honesty and trustworthy behaviour with others may also support the development of similar, self-referenced feelings, i.e., learning to be honest with and trust oneself, thus further supporting the development of character. This may also be encouraged by

positive experiences such as engagement and flow, and discouraged by negative engagement, and it is notable that flow and negative engagement remained as predictors after controlling for personality. No specific contribution to this finding was made by the variables of ECA participation, which may mean that honesty and trustworthiness is a quality that is valued equally across sport and music ECAs. Honesty and trustworthiness may also be a quality that grows in a more organic way, rather than solely through the frequency of participation, for example.

Flourishing. Flourishing was included in the study as an indicator of well-being. The frequency of participation and activity type (sport) were both predictors of flourishing; as were the personality dimensions of extraversion, agreeableness, and openness to experience. Frequency of participation remained significant when personality was controlled. In addition, positive engagement and flow positively predicted flourishing, while negative engagement was a negative predictor; and these relations remained significant when controlling for personality.

These findings support the overall contention that participation in ECAs, and encountering rewarding experiences, can foster a general sense of well-being. The Flourishing Scale (Diener et al., 2010) refers to constructs such as a sense of well-being, purpose and meaning, contributions to the well-being of others, and an optimistic view of the future. The results suggest that participation in ECAs that are rewarding and engaging supports these outcomes, thus also fostering PYD.

Nevertheless, it is interesting that music involvement did not predict flourishing while sport did. Previous research has found that participation in the creative arts was negatively associated with purpose (Bundick, 2011), while others have linked music

listening with regulation of mood and emotional coping (Ter Bogt et al, 2010). Future research into music activities and PYD could investigate these relations with the goal of identifying factors that could improve outcomes for music participants.

Activity type

Fewer differences than anticipated were found on the basis of activity type (sport or music) from this research, yet the two activities themselves are ostensibly unlike. This result may be explained in part by *niche-picking*, a developmentally related process through which individuals move from passive-, to evocative-, to active interactions between their unique personality (based in their genotype) and environmental experiences, in order to select optimal contexts for themselves (Scarr & McCartney, 1983). For example, niche-picking was the proposed explanation underlying previous findings that children's greater openness to experience and conscientiousness predicted participation and duration in music activities (Corrigall & Schellenberg, 2015). Thus, it may be the case that the current research tapped into the responses of individuals within their preferred environment (i.e., music or sport ECAs) rather than into the differential effects of those activities. This could also have been reinforced by the methodology of Study 2, which asked participants to respond while thinking about involvement in their favourite ECA.

Experiences in sport and music activities

The results of Study 2 echo those of Study 1 with respect to the importance of the experiences encountered during ECA participation. Previous research has indicated that quality ECAs can interest and challenge adolescents and, in the context of youth programmes, PYD occurs as they become engaged and occupied with an activity (Pearce

& Larson, 2006). In the current research, positive engagement was the quality of experience variable most consistently associated with indices of character and flourishing. However, this was diminished when controlling for personality, when positive engagement predicted only flourishing. Nonetheless, these findings support earlier research and discussion within the PYD literature that emphasise the importance of rewarding experiences within youth programmes and ECAs (Barrett & Smigiel, 2007; Dworkin et al., 2003; Ramey et al., 2015)

Negative engagement was almost as consistent a predictor as positive engagement, as it was negatively related to all of the outcome variables except character. When personality was included the analysis, negative engagement continued to negatively predict problem solving, honesty and trustworthiness, and flow. Sources of negative experience identified in the *Youth Experiences Survey* (Hansen et al., 2003) include excessive time commitments, negative peer pressure and group interaction, and a lack of sense of belonging. This suggests that, while the goal of ECAs is to provide positive experiences, care should also be taken to ensure that the demands of participation are well matched in terms of time available, and that activity leadership is sufficiently present to ensure a rewarding and inclusive environment.

Enjoyment was a positive predictor for character, and also of grit through an interaction with sport activity participation; and these relations were unchanged when personality was included in the analysis. Caution should be exercised in drawing extensive conclusions from this result as enjoyment was assessed using a one item scale (Adachi & Willoughby, 2014). However, this finding does contribute evidence that

participation in activities that are entertaining and satisfying can contribute towards PYD outcomes.

Flow experiences positively predicted problem solving, honesty and trustworthiness, and flourishing; and this association remained in the presence of personality in the analysis. It can be argued that problem solving would be supported because the experience of flow involves absorption in a task when challenge, capability and interest meet (Csikszentmihalyi & LeFevre, 1989). Additionally, the experience of flow is likely to promote personal investment in, and a sense of intrinsic reward from, an activity, which could further foster authenticity and well-being.

A particularly interesting finding was that engagement, positive and negative, applied across the indices of character and well-being, but enjoyment and flow were independent in their predictions. Enjoyment was related to character and grit, and was the only quality of experience variable to moderate the association between sport participation and grit. Flow was related to problem solving, honesty and trustworthiness, and flourishing. These findings require further research but perhaps character and grit are externally focused qualities that develop through activities in response to external and expressive influences. In contrast, problem solving, honesty and trustworthiness, and flourishing may manifest as more personally experienced qualities and develop in response to internally encountered influences such as the sense of absorption in flow.

Limitations and Future Research

One of the goals of this study was to make comparisons between the experiences and outcomes of participating in sport and music ECAs. Few differences were found between the two activity types, which corresponds with previous research (e.g., Larson et

al., 2006), and differs from others (e.g., Bundick, 2011). A limitation of both Study 1 and Study 2 is that cross-sectional designs and correlational data were used. However, given that Study 1 did not find that music participation was a significant predictor of character, it was important to explore the existence of an association further. Future research would benefit from longitudinal study design, in order to capture a clearer picture of ECA participation and the outcomes with respect to character. Longitudinal studies would also permit a more detailed investigation of the factors and changes that may occur in character development over time. Retrospective methods were used in this research to allow for the presumption that character development would have occurred throughout adolescence, but ongoing studies of youth in sport and music would permit a wider and deeper approach to this research question.

In the attempt to equate measures that would apply to experiences across sport and music, it is possible that the finer detail of involvement in each has been sacrificed. For example, the outcome measures used did not include any of the more spiritually uplifting aspects of character, such as creativity or feeling a sense of awe at beauty (Steen et al., 2003). It can be argued that both of these elements could be found in sport or music, and a greater range of character attributes may also contribute towards a more accurate definition of character and a more precise understanding of character development.

The study recruited from a fairly narrow range of participants, although attempts were made to include participants for whom sport or music was a primarily recreational activity, as well as those for whom sport or music was an activity of stronger interest. Nevertheless, this is likely to have restricted the information about the variability in ECA

experiences and character development. Wider recruitment would contribute to a more generalisable understanding of the experiences gained through ECA participation, and the implications for PYD and character development. Wider recruitment combined with a longitudinal design would provide optimal opportunities for comprehensive data.

In summary, this study found that while there were no main effects, elements of both sport and music involvement predicted indices of character. The sport group scored higher on ratings of engagement and outcomes. Overall, personality was a stronger predictor of the indices of character than ECA participation, but the quality of the ECA experiences generally remained significant when controlling for personality. Thus it seems that it is not sufficient for youth to be merely present in an ECA setting; the benefits of PYD are best promoted through positive, engaging, and meaningful experiences. This supports the reciprocal mechanism that underlies the theory of dynamic contextualism (Lerner, R. M., 1991).

Although few differences were found on the basis of type of activity, the sport and music groups were found to differ on ratings of personality and ratings of ECA experience. This raises two further points for consideration. First, the differences in personality suggest that certain aspects of sport or music appeal to some participants more than others. This is supported by the fact that participants were able to identify which of the two activities was the most important to them, despite the fact that many participants were involved in both types. It may be that some form of niche-picking (Scarr & McCartney, 1983) was involved in the choice of the preferred activity for participation, and the effects of this in the prediction of PYD outcomes remain to be investigated.

Second, music was the preferred activity for many participants, including those who also play sport, yet it did not appear to produce the same outcomes in terms of participation experiences or character indices as sport. The reasons for this require further consideration in order to explore possible explanations and to guide future research. These two points will be addressed in the general discussion.

General discussion

The main goal of this research was to explore the association between ECA music participation and character, one of the Five Cs of PYD. Previous research has investigated associations between ECA involvement and PYD, and has outlined the importance of factors additional to participation, such as organised, structured activities, adult leadership, opportunities and challenges. These features of PYD are understood to provide a foundational structure for youth to learn about themselves and their social context, and experience engagement participation in the activities (Catalano et al., 2004; Dworkin et al., 2003; Ramey et al., 2015; Roth & Brooks-Gunn, 2003a).

In this research, two studies were used to investigate the relation between music ECAs and character. In Study 1, the first goal was to test a method of measuring music participation that was closer to the quantitative measures used in sport research (Fredricks & Eccles, 2006a; Rose-Krasnor et al., 2006). Secondly, Study 1 used participants' retrospective reports of their music activities during adolescence, as well as their motivations for involvement, in order to investigate links with character development, measured using the VIA character virtues (Petersen & Seligman, 2004, pp. 627-633). Information about sport participation was also collected as a point of comparison. The results did not show that music involvement predicted character, although sport participation was found to do so. However, the motivations for music participation were associated with character. Limitations of the study included calibration of the level of detail with the initial quantitative measure of music participation, and logistic issues with the VIA character measure. Nevertheless, the results of the study were intriguing and presented two lines for further research. The first of these was to find a way to quantify

music participation which could parallel that of sport participation. The second was to delve into the reasons that underlay the motivations for music participation predicting character when indices of participation did not.

Study 2 also used the methodology of retrospective reports and asked participants to nominate and respond while thinking about the one sport or music ECA which was most important to them. The study employed a different set of measures and assessed a wider range of outcomes. Assessment of sport or music activities was done using a quantitative ECA measure, which meant a less fine-grained assessment of music participation but equality of information for both activities. Data were collected with respect to participants' experiences while involved in activities, their personality, and their ratings of character and well-being indices. Overall the results found that ECA participation variables were not strongly predictive of character or well-being. Few differentiations were made on the basis of sport versus music participation, although the sports group generally had higher ratings regarding their participation. However, the experiences encountered during ECA involvement were more consistently related to character and well-being. Personality was a stronger predictor than ECA participation, but indicators of ECA experiences remained significant, even when controlling for personality. Sport ECA participation has been studied extensively in previous research but music in the context of ECAs and PYD less so. Thus, consideration needs to be given to the possible reasons that make music ECAs appear to be less engaging and less strongly related to PYD outcomes than sport ECAs.

Sport and Music ECA participation

Differences in experience and outcomes between sport and music ECA participation may, in part, originate from contrasts in the way that novices can participate. Many sports, or at least the basic components, can be played without a great deal of learning or practice, but musical instruments and the music itself typically require extensive amounts of study and rehearsal. This may be reinforced by a sense of concordance for adolescents in sports, who are involved in an activity (e.g., soccer) that directly reflects their interest (e.g., soccer), whereas previous research has indicated that youth musicians frequently learn to play music that is not necessarily of their preference or taste (North et al., 2000). Such factors of postponement of competence, achievement, and possibly enjoyment or reward, might suggest findings of higher grit in the music group but this was not found in this research. Perhaps, in such circumstances the passion component of grit is yet to be established (Duckworth et al., 2007), leaving involvement in the activity as rather more grim than grit. Comparisons between the differences in the mechanisms of sport and music participation, and the possible associations with grit will need further research.

Sport also has a higher level of visibility in society. For example, media, educational organisations, and public health disseminate messages that general physical health is obtained through physical activity. This is typically portrayed as physical exercise and parents identify this as one of the reasons for enrolling their children in sport ECAs (Bauer et al., 2008). Aside from making sport activities more salient, the physical benefits of music participation may be overlooked in the face of such conventional wisdom. However, Hallam (2010) has described the results of research into the physical

benefits from music activities which range from improved physical co-ordination; to gross- and fine motor abilities; to pulmonary, cardiac, and immune system function; and to reduced perceived stress and other indicators of emotional well-being. Additionally, benefits may accrue to memorisation skills through visual, auditory, and physical mental practice (Lim & Lippman, 1991). Sport also has a higher presence as a spectator interest on television, for example, thereby reinforcing its salience and providing opportunities for shared experiences with parents and family that music does not.

The contention regarding differences in visibility may also play out on a larger scale, in that sports activities are often organised by associations related to the sport itself, e.g., Hockey Canada, or through local sport centres, e.g. swim programmes. Music activities appear to exist on a more ad hoc basis, through private music schools, or associations. Furthermore, these organisations often break during the summer, when choices through municipal programmes are also limited (City of Ottawa, 2016).

Additionally, sports activities are more visible through the design of competitive and recreational leagues, and by the systematic progression of youth through levels of competence. Sport league competitions maintain records of scores, and progress is easily understood. This is not matched in music, as progression marked by exams may not translate directly into differences in music participation; opportunities to perform are less frequent, occurring at the culmination of a term or programme; and the experience is ephemeral, typically available only to those who attended the event. These factors imply a longer period of time over which youth must persevere before they reach a point of performance or public recognition, whereas in sport programmes, opportunities and markers of progress occur more frequently. The possible effects of such differences in

experience warrants further investigation, particularly using longitudinal methods to explore which aspects of involvement influence sustained duration or abandonment of the activity.

Character development

Study 2 found that ECA involvement predicted character, although this was on the basis of frequency of participation, and neither sport or music participation did so, per se. This result is interesting for two reasons. First, it was expected that sport participation would predict character: sport activities have long been associated with the development of character through coaching efforts and through established, although loose, definitions, such as sportspersonship (Chandler & Goldberg, 1990; Bolter & Weiss, 2012). Second, it is perhaps less surprising that music participation did not predict character as psychological research into music participation, and participation itself, seldom overtly articulate concepts of character. For instance, there is no correspondingly obvious counterpart to sportspersonship in music, no 'musicpersonship', which makes outlining what character would look like in this milieu challenging. Also, given the finding that character, both for its own sake and as a life skill, tends to be taught rather than caught (Theokas, Danish, Hodge, Heke, & Forneris, 2008), there seems to be an absence of this aspect in ECA music programming and psychological research, whereas sport is proactively concerned with character, and researchers investigate the coaching of it (Bolter & Weiss, 2012).

The value of a vocabulary to articulate themes of development has been reported in several areas of PYD research (Dahlsgaard et al., 2005; Lerner, J., et al., 2009; Park et al., 2006; Lerner, R. M., Lerner J. V., et al., 2006; Steen et al., 2003). Although research

has indicated that youth are aware of the concepts of character (Steen et al., 2003), the verbal expression of ideas using related vocabulary has been found to help youth recognise, evaluate, and internalise new and evolving ideas and skills (Larson, 2000; Larson, 2011). It is possible that such a vocabulary is not yet explicit in music ECAs or that the terminology differs substantially, thus obscuring the potential for understanding concepts such as character and related concepts such as grit.

Furthermore, there are aspects of music participation that may go unrecognised as having the potential to foster other PYD outcomes. School bands and youth orchestras (and perhaps to a lesser extent, music lessons) imply adult leadership and opportunities for adolescents to test themselves in the face of learning to play an instrument, learning new music, the collaboration of playing in a group, the responsibility of practicing and being prepared for rehearsal, and the challenges of live and solo performance. Many of the underlying behaviours which support these activities also apply to adult life and their development through music activities could support the transfer of such abilities (Larson & Angus, 2011).

The possibility that ongoing character development and PYD could confer benefits to music participation may also have been overlooked. As PYD rests on a theory of reciprocation between individual youth and their environment (Ramey & Rose-Krasnor, 2011; Lerner, R. M., 1991), adolescents' ongoing PYD could enhance their participation in music ECAs. Use of the lexicon and practice of PYD may help youth musicians develop skills and overcome difficulties encountered in music activities. For example, growth in the areas of perspective taking and emotional regulation could assist musicians in their commitment towards interpretation and performance (Green, 1986).

Contributions from youth musicians may be also able to amend the design of music activities, further increasing opportunities for broader participation (Ramey & Rose-Krasnor, 2011).

However, music researchers, teachers, and organisations seem to have largely overlooked the possibilities of music ECAs as a setting for character development and overall PYD. From the perspective of psychological study, current music research appears to focus more on the educational and performance aspects of participation, rather than PYD outcomes. In the same way that research and youth programme designers needed to identify the aspects of activities that supported PYD (Dworkin et al., 2003; Fredricks & Eccles, 2006a), music researchers and programme leaders may benefit from investigating associations between music activities and PYD outcomes such as character. This would also support the ongoing investigation of the underlying concepts and expectations of PYD, thus promoting the recognition of opportunities to experience them via music involvement. Additionally, aspects of participation may need to be reconsidered or amended to support this goal, such as ensuring that youth musicians are able to take part in authentic opportunities for collaboration and leadership in all aspects of music organisations. Finally, research into the links between music ECAs, character and PYD outcomes could provide evidence of the benefits of including music in school curricular, particularly given the current interest in providing character education (Berkowitz, & Bier, 2004).

Quality of ECA Experiences

The results of both Study 1 and Study 2 found that adolescents involved in music activities experienced forms of engagement, and that these were predictive of character

and well-being. Furthermore, the effects of engagement remained when controlling for personality.

Although they did not predict consistently, in combination, the indices of engagement used in the study were associated with all the outcomes of character and well-being. While negative experiences appeared to undermine PYD outcomes, the positive aspects of ECA experience were quite distinct, although their effects may enhance each other,. Enjoyment and flow appeared to be mutually exclusive in their association with character and grit; and problem solving, honesty and trustworthiness, and flourishing; respectively. Thus, the quality of experiences found in ECAs can be influential in terms of the PYD opportunities for adolescents but more research needs to be undertaken to clarify the potential mechanisms between different types of engagement and outcomes.

Personality

Analysis using activity type produced few differential results on the basis of overall ECA involvement, lending support to the assertion that ECA participation in general is an important factor in PYD. This finding may be reassuring to parents as they decide in which activity(ies) to enrol their child. Nonetheless, the fact that participants chose one activity which was the most important to them suggests that individual differences have some influence, possibly through the process of niche-picking (Scarr & McCartney, 1983) and this implies that one choice may be more appropriate than another.

In this research, the sport group reported higher conscientiousness and the music group greater openness to experience. These two personality traits have been associated with a greater propensity to experience flow in everyday activities, in that

conscientiousness positively predicted, and neuroticism negatively predicted, proneness to experience flow in daily life (Ullén et al., 2012). Ullén et al. also argued that aspects of neuroticism, such as anxiety and negative, unstable emotionality, could impede flow experiences. Although no association was found between flow and grit in this research, it may be the case that sport participants higher in conscientiousness are more likely to experience flow during activities.

Openness to experience is reported to relate to creativity, intelligence, academic achievement, pleasure in intellectual activities, and an appreciation for music and the arts in general (Corrigall & Schellenberg, 2015). Furthermore, openness and flow have also been found to predict music practice (Butkovic et al., 2012). Openness is linked with two genes which influence dopamine function, itself associated with working memory, enthusiasm for enquiry, and reward (Corrigall & Schellenberg, 2015). This in turn may support findings about propensity to experience flow, which could reward the process of activity involvement and promote continued participation. In addition, research into associations between personality traits and sport activities has found that, with the exception of neuroticism, the Big Five are positively predictive of various aspects of sport participation (Allen & Laborde, 2014; Allen et al., 2013). Allen and Laborde (2014) further suggest that the developmental stage of adolescence may be particularly receptive to changes in personality as a result of sport participation experiences.

Allen et al. (2013) have proposed extensive investigations of the association between sport participation and personality, and the contexts in which they occur (e.g., team versus individual sport). This suggestion could be expanded so that PYD research could begin to consider the associations and influences of ECA involvement from and on

personality. Bringing together the areas of PYD and personality research, particularly as they relate to niche- picking and experiences such as flow, would offer the prospect of increasing understanding of the mechanisms that support adolescent development.

Equally, excluding the possible effects of personality may fail to explain, and thereby underestimate, the potential value and effects that PYD settings have to offer. It may be that explanations found through research would underpin theories such as ecological systems theory (Bronfenbrenner, 1979) and developmental contextualism (Lerner, R. M., 1991), and identify links with adolescent changes and neurological plasticity. Collaboration between the fields of PYD and personality research could explore the contextual effects of various settings and activities, as well as longitudinal research on the manifestation and permanence of personality changes (Allen et al., 2013). Outcomes would have the potential to support the value of continued sport or music involvement, for example, throughout adolescence and over the long term. Awareness of the importance of these aspects through the life span would also help guide individuals and policy makers in optimal ways of ensuring the provision of appropriate and relevant educational policy, as well as recreational opportunities and programming.

Limitations and Future Directions

Some specific opportunities for future research have been addressed above, but the study's limitations, and the resultant need for further investigation also need to be identified.

The study was of a cross-sectional design and used correlational data. As the research was intended to obtain evidence of the existence of an association between music and character, this methodology was appropriate. Nevertheless, future research

would benefit from the use of longitudinal methods to assess the effects of ECA participation and character development over time. Mixed methodologies would also bring the benefits of in-depth, qualitative interviews which could be used to guide future directions of quantitative research, and which could also provide detailed insight into the processes of PYD on an individual basis.

The study also used retrospective self-report to assess ECA participation and its possible outcomes. Although arguments have been made which support the salience of memories from adolescence (Houle et al., 2010), longitudinal studies would offer more immediate opportunities for recall which could increase accuracy and should be considered for future research.

Longitudinal research would also allow other potential factors such as gender differences to be teased out. Previous research has found evidence for the genderisation of activities and this seems to apply particularly in music (Hallam et al., 2008). While no differences were found here, a more detailed investigation into preferences, engagement, and outcomes on a gender basis would be worthwhile.

Although attempts were made to recruit from several sources, the majority of the sample was obtained from a single source; first and second year students at a university. Descriptive statistics also indicated that the participants had came from a largely homogeneous demographic background. Future research that casts a wider net of recruitment will contribute more varied information into adolescents' experiences in ECA participation.

The measurement of music activities proved to be challenging. Too much detail about every configuration and circumstance of music participation produced data that

was fragmented; whereas a broader approach, which was closer to existing sport information surveys, threatened to obscure detail. Thus, a reliable and valid questionnaire to assess ECA participation in sport and music requires development and further research.

The measures used to assess character in Study 1 were plagued by logistical problems; and in Study 2 omitted aspects such as enjoyment of beauty, and the awe and elation that can be experienced when playing music together. Whether such facets of character relate to both sport and music experience is another area for future investigation. Additionally, the study did not assess character in the face of failure at a task or event, and this also could be an area of investigation in the future. The results of such research can also be used to refine existing definitions and measures of character as a component of PYD.

A phenomenological approach was taken to the activities that participants selected as sport or music activities. While this has been justified in previous research (e.g., Dworkin et al., 2003), greater strength and precision in responses might be obtained by a more specific classification of sport or music activities. As the study's main focus was music participation, with sport included for the purposes of comparison, a variety of other PYD activities were excluded from consideration. Future research will need to explore a range of ECA programmes, including clubs, spiritual and religious activities, and volunteering, in order to be able to discuss PYD outcomes as fully as possible.

One of the most important features of PYD programmes is that youth are able to collaborate with their peers in the activity of choice. However, peers and their potential influence were not included in the study. In order to gain a more complete picture, future

studies should assess the influence and importance of peers. Similarly, parents and coaches were also not included as factors in this study, but future research should explore their influence during the adolescent years, and possibly into early adulthood.

In conclusion, this research found that both sport and music ECA involvement, and the experiences encountered therein, contributed to character development and well-being. While sport and music were compared in this research, they may be complementary in the benefits participation in them brings. Individual differences, including personality, and preferences exercised by youth through niche-picking, for example, will help determine which is the optimal choice or blend of activities. This, when found and engaged in, should foster and encourage adolescents to explore and maximise the available developmental opportunities.

As with sport, music ECAs could benefit from identifying and demonstrating their role in PYD. Whether resultant elements of character concur with or differ from those of sport, evidence of the contribution of music would be supportive of global adolescent development. Qualities of character, gained through music participation, would be valuable assets in an increasingly connected and diverse world, as well as supporting adolescents in their natural developmental quest to fully express their potential.

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Appendix A

Study 1 - Recruitment Material

Recruitment notice to be posted online to be read by potential participants

Ethics Approval Number: _____

Would you like to take part in a study that examines people's character, their experiences with music and what it means to them? Would you like to receive a profile of your character strengths?

Participation in extra-curricular sports activities is understood to be beneficial during adolescence, but less research has looked at music participation. For youth, music is taught less in schools but time spent listening to music seems to have increased. The study will explore the music and general experiences of university students, both past and current. The purpose of this study is to investigate what these changes have brought with respect to music involvement and in terms of adolescent development.

Participation involves answering some questions about yourself and your extra-curricular activities and musical interests in High School and currently. The study has received approval from the Carleton University Ethics Committee for Psychological Research. You will receive a 1% increase in your final grade in PSYC 1001, 1002, 2001, 2002 or NEUR 2001, 2002 for participating in this study.

If you would like to take part:

- You will need to provide your name, student number and indicate that you give your informed consent.
- You will be asked to respond to questions about yourself, your High School and current extra-curricular activities, your music interests and how you experience music.
- The questionnaire usually takes about 60 minutes, but you can take your time.
- You don't have to answer any questions you don't want to.
- You will be able to click on a withdraw button within the questionnaire if you want to stop participating.
- Your answers will be kept private and not be shown to anyone, except the researchers Belinda Boekhoven, Katelin Karhunen and their supervisor, Dr. Bowker.
- Your answers will be identified by a participant number, and your name will not be used.
- The data will be stored in a locked filing cabinet in a locked research lab for 5 years after publication.

Please note: The two online survey questionnaires used in this study (Qualtrics and the VIA Institute) are hosted by servers located in the USA. The United States Patriot Act

permits U.S. law enforcement officials, for the purpose of an anti-terrorism investigation, to seek a court order that allows access to the personal records of any person without that person's knowledge. In view of this we cannot absolutely guarantee the full confidentiality and anonymity of your data. With your consent to participate in this study you acknowledge this.

To address this, the study has been set up to assign you an ID number via SONA. You will use only this number identify your responses to the questionnaire sites in the USA, thus providing anonymity on the servers in the US.

Informed Consent Form

Informed consent: Campus Music Study – Phase 3 - Ethics Approval Number:

Your informed consent is required before you can take part in the study. Informed consent means you understand the purpose of the study and what is involved if you participate,

By signing this form, I acknowledge the following:

I understand that I have been asked to be in a research study about my music experiences. I know that if I agree to participate in this study, I will be giving answers to a questionnaire about myself and my extra-curricular activities and musical interests in High School and currently. The questionnaire should take about 60 minutes to complete, but there is no time limit. I am free to withdraw from the study at any time, or to omit questions that I would rather not answer. I understand there will be no penalty if I withdraw from the study.

I know that the study has received approval from the Carleton University Ethics Committee for Psychological Research. I know that I will receive a 1% increase in my final grade in PSYC 1001, 1002, 2001, 2002 or NEUR 2001, 2002 for participating in this study.

I know that the two online survey questionnaires used in this study (Qualtrics and the VIA Institute) are hosted by servers located in the USA. The United States Patriot Act permits U.S. law enforcement officials, for the purpose of an anti-terrorism investigation, to seek a court order that allows access to the personal records of any person without that person's knowledge. In view of this the researchers cannot absolutely guarantee the full confidentiality and anonymity of my data. I acknowledge this with my consent to participate in this study.

I understand that, to address this, the study has been set up to assign me an ID number via SONA. I will use only this number to access the questionnaire sites in the USA, thus providing anonymity on the servers in the US.

I know that my answers will be kept in confidence and not be shown to anyone, except Belinda Boekhoven, Katelin Karhune and Dr. Anne Bowker. I will be given a participant number on the survey and my name will not be included.

If I have any questions about the study or problems completing this survey I can contact:

- Belinda Boekhoven:
Phone: Email:
- Dr. John Zelenski, Associate Chair
Phone: Email:

If I have questions about the ethics of this study I can contact:

- Dr. Avi Parush, Professor of Psychology, Carleton University Ethics Committee
for Psychological Research Chair
- Phone: Email:

Please click on the appropriate button to indicate whether you agree to participate in the Campus Music Study – Phase 3.

Yes, I agree to participate

No, I do not agree to participate

Name: _____

Student Number _____

Carleton Email Address _____

Date: _____

Would you like to receive a summary of the study results? Yes No

Appendix B

Study 1 Debriefing Statement and Summary

Debriefing/Summary Sheet at End of Questionnaires

Thank you again for agreeing to participate in our study on music interests and experiences. While the benefits of some extra-curricular activities are understood, the effects of music activities have received less research. However, music has become more accessible in recent years, possibly resulting in greater time spent listening to it. Music has also been reported to stimulate and reflect personal beliefs and identity, and may promote social connections and influence character development. This study should extend recent research findings and may reveal associations between musical experiences and beneficial developmental outcomes.

If you have any comments or questions as a result of completing this survey, you can contact:

- Belinda Boekhoven:
Phone: Email:
- Dr. John Zelenski, Associate Chair:
Phone: Email:

If you have questions about the ethics of this study you can contact:

- Dr. Avi Parush, Professor of Psychology, Carleton University Ethics Committee for Psychological Research Chair:
Phone: Email:

Appendix C

Study 1 - Extra-curricular Activity Participation Questionnaires

Study ID: _____

We would like to know about your experiences with structured activity involvement outside school when you were aged 14-18 years old and currently. Structured activities are led by adults, have a schedule of meetings, and your participation is voluntary.

Please circle each answer that applies to you, and write information about your experience in the spaces provided.

Today's Date	Your programme at Carleton is:	
Year of birth	You are:	Male Female

Please think about your experiences in activities outside school when you were aged 14 to 18 years and respond to the questions below:

If you took part in organised sports outside school, please provide the information requested below:		
Sport, e.g. Hockey, Gymnastics:	Number of years you participated	Number of hours per week

If you learned to play a musical instrument or to sing, please provide the information requested below:

Which instruments, including voice?	Number of years you participated	Number of hours per week

Activities Questionnaire...continued...

Please think about your experiences playing music or singing when you were aged 14 to 18 years and respond to the questions below:

Did you have lessons?	Yes	No
Did you teach yourself?	Yes	No
If yes, did you learn from books?	Yes	No
If yes, did you learn from the Internet?	Yes	No
How many years did you learn?		
Did you play or sing when alone?	Yes	No
If yes, how many hours a week?		

If you played music in a school band/orchestra, please provide the information requested below:

Which instruments?	Number of years you participated	Number of hours per week

If you sang in a **school choir**, please provide the information requested below:

How many years did you participate?
How many hours per week?

Activities Questionnaire...continued...

If you played or sang with a garage band or just with your friends, please provide the information requested below:

Which instruments, including voice?	Number of years you participated	Number of hours per week

If you played music in an orchestra or band **outside school**, please provide the information requested below:

Which instruments, including voice?	Number of years you participated	Number of hours per week

If you sang in a choir **outside school**, please provide the information requested below:

How many years did you participate?

How many hours per week?

Appendix D

Study 1 - Motivations for Music Participation Questionnaire

Between the ages of 14 and 18 years, how did you use and relate to music in your life?

Please rate how much these statements apply to you when you were playing music or singing using the 7 point scale

1 = Does not apply, 4 = neutral, and 7 = Applies strongly.

	Does not apply	Neutral	Applies strongly
I used music/singing to reflect my mood	1 2 3 4 5 6 7		
I preferred to choose music for myself	1 2 3 4 5 6 7		
I used music to retreat into	1 2 3 4 5 6 7		
My music choices showed others who I am	1 2 3 4 5 6 7		
I liked to play music/sing when I was alone	1 2 3 4 5 6 7		
I was aware of the lyrics in music	1 2 3 4 5 6 7		
I used music/singing to connect with others	1 2 3 4 5 6 7		
I used music/singing to stimulate my mood	1 2 3 4 5 6 7		
I used music/singing to express my emotions	1 2 3 4 5 6 7		
My music choices showed others who I'd like to be	1 2 3 4 5 6 7		
I liked to play music/sing with friends	1 2 3 4 5 6 7		
I followed the music recommendations of friends	1 2 3 4 5 6 7		
I used music/singing to cope with my emotions	1 2 3 4 5 6 7		
I was aware of the instrumental elements in music	1 2 3 4 5 6 7		
I recommended music to friends	1 2 3 4 5 6 7		

Appendix E

Study 1 - Self-description Questionnaire

How do you currently feel about yourself?

Please rate how much these statements apply to you using an 8 point scale where 1 = Definitely false, and 8 = Definitely true.

	Definitely false	False	Mostly false	More false than true	More true than false	Mostly true	True	Definitely true
Overall, I have a lot of respect for myself.	1	2	3	4	5	6	7	8
Overall, I lack self-confidence.	1	2	3	4	5	6	7	8
Overall, I am pretty accepting of myself.	1	2	3	4	5	6	7	8
Overall, I don't have much respect for myself.	1	2	3	4	5	6	7	8
Overall, I have a lot of self-confidence.	1	2	3	4	5	6	7	8
Overall, I have a very good self-concept.	1	2	3	4	5	6	7	8
Overall, nothing that I do is very important.	1	2	3	4	5	6	7	8
Overall, I have pretty positive feeling about myself.	1	2	3	4	5	6	7	8
Overall, I have a very poor self-concept.	1	2	3	4	5	6	7	8
Overall, I have pretty negative feelings about myself.	1	2	3	4	5	6	7	8
Overall, I do lots of things that are important.	1	2	3	4	5	6	7	8
Overall, I am not very accepting of myself.	1	2	3	4	5	6	7	8

Appendix F

Study 1 - VIA Inventory of Character Strengths

Sample questions as they would be presented in the VIA-IS online questionnaire.

Please choose one option in response to each statement. All of the questions reflect statements that many people would find desirable, but we want you to answer only in terms of whether the statement describes what you are like. Please be honest and accurate! We cannot rank your strengths until you answer all of the 240 questions.

I find the world an interesting place

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I always go out of my way to attend education events

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I always identify the reasons for my actions

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

Being able to come up with new and different ideas is one of my strong points

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I am very aware of my surroundings

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I always have a broad outlook on what is going on

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I have taken frequent stands in the face of strong opposition

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I never quit a task before it is done

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I always keep my promises

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

I am never too busy to help a friend

<input type="checkbox"/> Very much like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Like me	<input type="checkbox"/> Unlike me	<input type="checkbox"/> Very much unlike me
--	----------------------------------	----------------------------------	------------------------------------	--

Thank you!

Appendix G

Study 2 - Recruitment Material⁴

Ethics Approval Number: _____

Would you like to take part in a study that looks at your music activities and what they mean to you?

Study Name: Music Activities & You

Description: The study will explore the recreational music activities (e.g. playing an instrument, singing) of university music students. You will be asked to respond to a questionnaire about your recreational activities and about yourself. The complete questionnaire usually takes about 30-60 minutes.

Eligibility Requirements: Participants will be university students.

Duration and Locale: The survey is online so you can complete it in a place of your choice, either on your computer, laptop, phone or similar device.

Compensation: You will receive an enhancement to your grade of 0.5% in any one of PSYC 1001, 1002, 2001, 2002 or NEUR 2001, 2002, as compensation for participating in the study. Each 60-minute block of participation raises the grade by 0.5% and it is anticipated that the study can be completed within 30 to 60 minutes.

Researchers:

- Belinda Boekhoven (Principal Investigator)
Phone: _____ Email: _____
- Dr. Anne Bowker (Faculty Sponsor)

This study has received clearance by the Carleton University Research Ethics Board-B. (Reference #xx-xxx).

Participation in this study is completely voluntary. You will be asked for your agreement to be part of the study.

Thank you for considering this request to be part of my research.

Yours sincerely,

Belinda Boekhoven
PhD Candidate
Department of Psychology

⁴ Recruitment letters, information, and consent forms were worded slightly differently depending on the recruitment method.

Informed Consent Form

Your informed consent is required before you can take part in the study. Informed consent provides sufficient information for you to understand the purpose of the study, what is involved if you participate, and to decide whether you would like to participate.

Informed consent: Music Activities & You

Research personnel. The following researchers are involved in this study, and you can contact them if you have any questions about the study or problems completing the survey:

- Belinda Boekhoven, PhD Candidate, Department of Psychology, Carleton University
Phone: Email:
- Dr. Anne Bowker, Research Supervisor, Associate Professor
Phone: Email:

Concerns. If you have questions about the ethics of this study you can contact:

- Dr. Shelley Brown, Carleton University Research Ethics Board-B
Phone: Email:
- Carleton University Research Ethics Board
Email:

Purpose. The purpose of this study is to investigate what experiences in recreational music activities mean in terms of youth development. The study will explore the recreational music activities (e.g. playing an instrument, singing) of university students. Participation in recreational activities is understood to be generally beneficial for young people, but associations between specific features of activities and outcomes, and the implications for youth development, have received less research attention.

Task Requirements. You will be asked to respond to questions about your recreational activities (e.g., your interests and experiences, opportunities for learning, your level of enjoyment) and about yourself (e.g., personal characteristics, goals, outcomes, demographic information). The complete questionnaire usually takes about 30-60 minutes.

Benefits/Compensation. You will receive an enhancement to your grade of 0.5% in one of PSYC 1001, 1002, 2001, 2002 or NEUR 2001, 2002, as compensation for participating in the study. Each 60-minute block of participation raises the grade by 0.5% and it is anticipated that the study can be completed within 30 to 60 minutes.

Potential Risk/Discomfort. Participating in this study involves no physical risks. All of the questions are similar to those which might be encountered in daily conversation. Questions pertaining to opinions about music participation and/or personal life choices may cause some participants mild emotional discomfort.

Anonymity/Confidentiality. All data in this study will be kept in confidence and not be shown to anyone except Belinda Boekhoven and Dr. Anne Bowker. Participant numbers

will be used on the survey and your name will not be used. The online survey questionnaire used in this study is hosted by Qualtrics, a research server located in the USA. The United States Patriot Act permits U.S. law enforcement officials, for the purpose of an anti-terrorism investigation, to seek a court order to obtain access to the personal records of any person without that person's knowledge. In view of this the researchers cannot absolutely guarantee the full confidentiality and anonymity of your data. With your consent to participate in this study, you acknowledge this.

Right to Withdraw. Participation in this study is completely. You can omit any questions you prefer not to answer. You can withdraw from the study at any time without giving an explanation. If you decide to withdraw, you can request that your data be deleted.

This study has been approved by the Carleton University Psychology Research Ethics Board.
Ethics Approval Number: _____

By indicating my agreement to participate I acknowledge the following:

I have read the above information and understand that I have been asked to take part in a research study about my recreational music activities and experiences. Participation in this study is completely optional. I am free to omit questions that I would rather not answer. I can withdraw from the study at any time without giving an explanation and without penalty. I know that if I agree to participate in this study, I will be giving answers to a questionnaire about myself and my extra-curricular activity participation. The questionnaire should take about 30-60 minutes to complete.

I know that the study has received approval from the Carleton University Ethics Committee for Psychological Research. I know that my answers will be kept in confidence and not be shown to anyone except Belinda Boekhoven and Dr. Anne Bowker. I will be given a participant number on the survey and my name will not be used.

Please indicate whether you agree to participate in the study Recreational Activities & You

Yes, I agree to participate

No, I do not agree to participate

Would you like to receive a summary of the study results? Yes No

Appendix H

Study 2 - Debriefing Sheet for Declined Consent

Thank you for considering whether to participate in this study on your recreational activities and experiences. While the benefits of recreational activities are generally understood, some specific effects have received less research. In particular, participation has been reported to promote positive youth development and influence character development. This study should extend recent research findings and may reveal associations between recreational music activity experiences and beneficial developmental outcomes.

If you would like to learn more about positive youth development, including character development, this article may be of interest:

Hansen, D., Larson, R., & Dworkin, J. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence, 13* (1), 25-56.

If you have any questions about the study, please contact:

- Belinda Boekhoven, PhD Candidate, Department of Psychology, Carleton University
Phone: _____ Email: _____
- Dr. Anne Bowker, Research Supervisor, Associate Professor
Phone: _____ Email: _____

If you have questions about the ethics of this study you can contact:

- Dr. Shelley Brown, Carleton University Research Ethics Board-B
Phone: _____ Email: _____
- Carleton University Research Ethics Board
Email: _____

Appendix I

Study 2 - Debriefing sheet

Thank you again for agreeing to participate in this study on your recreational activities and experiences. While the benefits of recreational activities are generally understood, some specific effects have received less research. In particular, participation has been reported to promote positive youth development and influence character development. This study should extend recent research findings and may reveal associations between recreational activity experiences and beneficial developmental outcomes.

If you would like to learn more about positive youth development, including character development, this article may be of interest:

Hansen, D., Larson, R., & Dworkin, J. (2003). What adolescents learn in organized youth activities: A survey of self-reported developmental experiences. *Journal of Research on Adolescence, 13* (1), 25-56.

If you have any questions about the study, please contact:

- Belinda Boekhoven, PhD Candidate, Department of Psychology, Carleton University
Phone: _____ Email: _____
- Dr. Anne Bowker, Research Supervisor, Associate Professor
Phone: _____ Email: _____

If you have questions about the ethics of this study you can contact:

- Dr. Shelley Brown, Carleton University Research Ethics Board-B
Phone: _____ Email: _____
- Carleton University Research Ethics Board
Email: _____

Appendix J

Study 2 - Extra-curricular Activities Questionnaire

Recreational activities

First, we would like to know about your experiences with your recreational activity involvement during the last 12 months.

Structured activities have a leader, have a schedule of meetings, and participation is voluntary. **Unstructured activities** are also voluntary, occur with peers or alone, and are not scheduled.

Use this chart to list **any/all SPORT activities** (e.g., hockey, soccer, horseback riding, swimming, tennis), both individual and team, in which you regularly participated in the last 12 months.

Use this chart to list **any/all MUSIC activities** (e.g., band, orchestra, choir, concerts), both individual and group, in which you regularly participated in the last 12 months.

Please write the name of the **ONE MUSIC Activity** you've listed that is the most important to you?

Please think about that ONE activity for the rest of the questions in this study.

Have you taken lessons in your chosen activity?	Yes			No		
Did you teach yourself your chosen activity?	Yes			No		
How many days per week do you participate in your chosen activity?	1	2	3	4	5	6
How many hours per week do you participate in your activity?	Less than 1		1-3		4-6	
How many hours per week do you practice/rehearse your activity for yourself?	Less than 1		1-3		4-6	
How would you rate your level of skill in your activity?	None	Beginner	Novice	Intermediate	Experienced	Expert
How would you rate your level of overall experience in your activity?	None	Beginner	Novice	Intermediate	Experienced	Expert

Appendix K

Study 2 - Big Five Inventory

How I am in general

Here are a number of characteristics that may or may not apply to you. For example, do you agree that you are someone who likes to spend time with others? For each statement, please indicate the extent to which you agree or disagree with that statement.

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Is talkative	1	2	3	4	5
Tends to find fault with others	1	2	3	4	5
Does a thorough job	1	2	3	4	5
Is depressed, blue	1	2	3	4	5
Is original, comes up with new ideas	1	2	3	4	5
Is reserved	1	2	3	4	5
Is helpful and unselfish with others	1	2	3	4	5
Can be somewhat careless	1	2	3	4	5
Is relaxed, handles stress well	1	2	3	4	5
Is curious about many different things	1	2	3	4	5
Is full of energy	1	2	3	4	5
Starts quarrels with others	1	2	3	4	5
Is a reliable worker	1	2	3	4	5
Can be tense	1	2	3	4	5
Is ingenious, a deep thinker	1	2	3	4	5

How I am in general...continued

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Generates a lot of enthusiasm	1	2	3	4	5
Has a forgiving nature	1	2	3	4	5
Tends to be disorganized	1	2	3	4	5
Worries a lot	1	2	3	4	5
Has an active imagination	1	2	3	4	5
Tends to be quiet	1	2	3	4	5
Is generally trusting	1	2	3	4	5
Tends to be lazy	1	2	3	4	5
Tends to be quiet	1	2	3	4	5
Is generally trusting	1	2	3	4	5
Tends to be lazy	1	2	3	4	5
Is emotionally stable, not easily upset	1	2	3	4	5
Is inventive	1	2	3	4	5
Has an assertive personality	1	2	3	4	5
Can be cold and aloof	1	2	3	4	5
Perseveres until the task is finished	1	2	3	4	5
Can be moody	1	2	3	4	5
Values artistic, aesthetic experiences	1	2	3	4	5
Is sometimes shy, inhibited	1	2	3	4	5
Is considerate and kind to almost everyone	1	2	3	4	5
Does things efficiently	1	2	3	4	5
Remains calm in tense situations	1	2	3	4	5
Prefers work that is routine	1	2	3	4	5
Is outgoing, sociable	1	2	3	4	5

How I am in general...continued

	Disagree Strongly	Disagree a little	Neither agree nor disagree	Agree a little	Agree strongly
Is sometimes rude to others	1	2	3	4	5
Makes plans and follows through with them	1	2	3	4	5
Gets nervous easily	1	2	3	4	5
Likes to reflect, play with ideas	1	2	3	4	5
Has few artistic interests	1	2	3	4	5
Likes to cooperate with others	1	2	3	4	5
Is easily distracted	1	2	3	4	5
Is sophisticated in art, music, or literature	1	2	3	4	5

Appendix L

Study 2 - Youth Experiences Survey

ECA participation experience measures

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

	Yes, Definitely	Quite a Bit	A Little	Not at All
IDENTITY EXPERIENCES				
Identity Exploration				
Tried doing new things	1	2	3	4
Tried a new way of acting around people	1	2	3	4
I do things here I don't get to do anywhere else	1	2	3	4
Identity Reflection				
Started thinking more about my future because of this activity	1	2	3	4
This activity got me thinking about who I am	1	2	3	4
This activity has been a positive turning point in my life	1	2	3	4

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

INITIATIVE EXPERIENCES	Yes, Definitely	Quite a Bit	A Little	Not at All
Goal Setting				
I set goals for myself in this activity	1	2	3	4
Learned to find ways to achieve my goals	1	2	3	4
Learned to consider possible obstacles when making plans	1	2	3	4
I put all my energy into this activity	1	2	3	4
Learned to push myself	1	2	3	4
Learned to focus my attention	1	2	3	4
Problem Solving				
Observed how others solved problems and learned from them	1	2	3	4
Learned about developing plans for solving a problem	1	2	3	4
Used my imagination to solve a problem	1	2	3	4
Time Management				
Learned about organizing time and not procrastinating (not putting things off)	1	2	3	4
Learned about setting priorities	1	2	3	4
Practiced self-discipline	1	2	3	4

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

BASIC SKILLS	Yes, definitely	Quite a Bit	A little	Not at All
Emotional Regulation				
Learned about controlling my temper	1	2	3	4
Became better at dealing with fear and anxiety	1	2	3	4
Became better at handling stress	1	2	3	4
Learned that my emotions affect how I perform	1	2	3	4
Cognitive Skills				
In this activity I have improved my:	1	2	3	4
Academic skills (reading, writing, math, etc.)	1	2	3	4
Skills for finding information	1	2	3	4
Computer/internet skills	1	2	3	4
Artistic/creative skills	1	2	3	4
Communication skills	1	2	3	4
Physical Skills				
Athletic or physical skills	1	2	3	4

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

INTERPERSONAL RELATIONSHIPS	Yes, definitely	Quite a Bit	A little	Not at All
Diverse Peer Relationships				
Made friends with someone of the opposite gender	1	2	3	4
Learned I had a lot in common with people from different backgrounds	1	2	3	4
Got to know someone from a different ethnic group	1	2	3	4
Made friends with someone from a different social class (someone richer or poorer)	1	2	3	4
Prosocial Norms				
Learned about helping others	1	2	3	4
I was able to change my school, university or community for the better	1	2	3	4
Learned to stand up for something I believed was morally right	1	2	3	4
We discussed morals and values	1	2	3	4

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

TEAM WORK AND SOCIAL SKILLS	Yes, definitely	Quite a Bit	A little	Not at All
Group Process Skills				
Learned that working together requires some compromising	1	2	3	4
Became better at sharing responsibility	1	2	3	4
Learned to be patient with other group members	1	2	3	4
Learned how my emotions and attitude affect others in the group	1	2	3	4
Learned that it is not necessary to like people in order to work with them	1	2	3	4
Feedback				
I became better at giving feedback	1	2	3	4
I became better at taking feedback	1	2	3	4
Leadership and Responsibility				
Learned about the challenges of being a leader	1	2	3	4
Others in this activity counted on me	1	2	3	4
Had an opportunity to be in charge of a group of peers	1	2	3	4

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

ADULT NETWORKS AND SOCIAL CAPITAL	Yes, definitely	Quite a Bit	A little	Not at All
Integration with Family				
This activity improved my relationship with my parents/guardians	1	2	3	4
I had good conversations with my parents/guardians because of this activity	1	2	3	4
Linkages to Community				
Got to know people in the community	1	2	3	4
Came to feel more supported by the community	1	2	3	4
Linkages to Work and College				
This activity opened up job or career opportunities for me	1	2	3	4
This activity helped prepare me for college	1	2	3	4
This activity increased my desire to stay in school	1	2	3	4

Instructions: Based on your *current* or *recent* involvement, please rate whether you have had the following experiences in your chosen music activity.

NEGATIVE EXPERIENCES	Yes, definitely	Quite a Bit	A little	Not at All
Stress				
Demands were so great that I didn't get homework done	1	2	3	4
This activity interfered with doing things with family	1	2	3	4
This activity has stressed me out	1	2	3	4
Negative Peer Influences				
Felt pressured by peers to do something I didn't want to do	1	2	3	4
I did something in this activity that was morally wrong	1	2	3	4
I was ridiculed by peers for something I did in this activity	1	2	3	4
Social Exclusion				
Felt like I didn't belong in this activity	1	2	3	4
I felt left out	1	2	3	4
There were cliques in this activity	1	2	3	4
Negative Group Dynamics				
I get stuck doing more than my fair share	1	2	3	4
Other youth in this activity made inappropriate sexual comments, jokes, or gestures	1	2	3	4
Was discriminated against because of my gender, race, ethnicity, disability, or sexual orientation	1	2	3	4

Appendix M

Study 2 - Enjoyment Measure

Activity participation

Thinking about your chosen music activity, please indicate how much the statement is true for you.

	Never	Every time			
How often did you enjoy participating in your activity?	1	2	3	4	5

Appendix N

Study 2 - Short Flow Scale

Activity participation

Thinking about your most important music activity, please circle one number to indicate how much each statement applies to you.

When I participate in this activity...

	Strongly agree						Strongly disagree
I feel I am competent enough to meet the high demands of the situation	1	2	3	4	5	6	7
I do things spontaneously and automatically without having to think	1	2	3	4	5	6	7
I have a strong sense of what I want to do	1	2	3	4	5	6	7
I have a good idea while I am performing about how well I am doing	1	2	3	4	5	6	7
I am completely focused on the task at hand	1	2	3	4	5	6	7
I have a feeling of total control	1	2	3	4	5	6	7
I am not worried about what others may be thinking of me	1	2	3	4	5	6	7
The way time passes seems to be different from normal	1	2	3	4	5	6	7
The experience is extremely rewarding	1	2	3	4	5	6	7

Appendix O

Study 2 - Core Flow Scale

Thinking about your most important music activity, please circle one number to indicate how much each statement applies to you.

When I participate in this activity...

	Strongly agree						Strongly disagree
I am 'totally involved'	1	2	3	4	5	6	7
It feels like 'everything clicks'	1	2	3	4	5	6	7
I am 'tune in' to what I am doing	1	2	3	4	5	6	7
I am 'in the zone'	1	2	3	4	5	6	7
I feel 'in control'	1	2	3	4	5	6	7
I am 'switched on'	1	2	3	4	5	6	7
It feels like I am 'in the flow' of things	1	2	3	4	5	6	7
It feels like 'nothing else matters'	1	2	3	4	5	6	7
I am 'in the groove'	1	2	3	4	5	6	7
I am 'totally focused on what I am doing'	1	2	3	4	5	6	7

Appendix P

Study 2 - PYD Short Form: Older Adolescents

The following pairs of sentences are talking about two kinds of people. We'd like you to decide whether you are more like the people on the left side, or you are more like the people on the right side. Then we would like you to decide whether that is only sort of true for you or really true for you and mark your answer.

For each pair of sentences, please choose which side (A or B) applies to you.

Choose only one side of each statement.

Then mark whether it is "Sort of true for you" or 'Really true for you'. Choose only one answer.

Here is an example:

Really true for me	Sort of true for me	A	B	Sort of true for me	Really true for me
		Some people would rather be outdoors in their spare time	But Other people would rather watch T.V.		X

Really true for me	Sort of true for me	A	B	Sort of true for me	Really true for me
		Some people feel that they are just as smart as others their age.	But Other people aren't so sure and wonder if they are as smart.		
		Some people have a lot of friends.	But Other people don't have very many friends.		

For each pair of sentences, please choose which side (A or B) applies to you.

Choose only one side of each statement.

Then mark whether it is "Sort of true for you" or 'Really true for you'. Choose only one answer.

Here is an example:

Really true for me	Sort of true for me	A	But	B	Sort of true for me	Really true for me
		Some people think they could do well at just about any new music activity.	But	Other people are afraid they might not do well at a new music activity.		
		Some people do very well at their class work.	But	Other people don't do very well at their class work.		
		Some people feel that they are better than others their age at music.	But	Other people don't feel they can play as well.		
		Some people are happy with themselves most of the time.	But	Other people are often not happy with themselves.		
		Some people are popular with others their age.	But	Other people are not very popular.		
		Some people think that they are good looking.	But	Other people think that they are not very good looking.		
		Some people do things they know they shouldn't do.	But	Other people hardly ever do things they know they shouldn't do.		

For each pair of sentences, please choose which side (A or B) applies to you.

Choose only one side of each statement.

Then mark whether it is "Sort of true for you" or 'Really true for you'. Choose only one answer.

Here is an example:

Really true for me	Sort of true for me	A	B	Sort of true for me	Really true for me
		Some people really like their looks.	But Other people wish they looked different.		
		Some people usually act the way they know they are supposed to.	But Other people often don't act the way they are supposed to.		
		Some people are very happy being the way they are.	But Other people wish they were different.		

How much do you agree or disagree with the following?

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
All in all, I am glad I am me					
Now I am an adult, I'm sure I will have a good life					

How important is each of the following to you in your life?

	Not important	Somewhat important	Not sure	Quite important	Extremely Important
Helping to make the world a better place to live in					
Giving time and money to make life better for other people					
Doing what I believe is right even if my friends make fun of me					
Accepting responsibility for my actions when I make a mistake or get in trouble					

Think about the people who know you well. How do you think *they would rate you* on each of these?

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
Knowing a lot about people of other cultures					
Enjoying being with people who are of a different race than I am					

How well do each of these statements describe you?

	Not well				Very well
When I see someone being taken advantage of, I want to help them					
It bothers me when bad things happen to any person					
I feel sorry for other people who don't have what I have					
When I see someone being picked on, I feel sorry for them					
It makes me sad to see a person who doesn't have friends					
When I see another person who is hurt or upset, I feel sorry for them					

How much do you agree or disagree with the following?

	Strongly agree	Agree	Not sure	Disagree	Strongly disagree
I get a lot of encouragement at my university					
Professors at university push me to be the best I can be					
I have lots of good conversations with my parents					
In my family I feel useful and important					
People in my town or city make me feel important					
People in my town or city listen to what I have to say					

How true is each of these statements for you?

	Always true	Usually true	Sometimes true	Seldom true	Almost never true or never true
I feel my friends are good friends					
My friends care about me					

Appendix Q

Study 2 - Short Grit Scale

Some questions about you.

For each statement please circle the number that applies most to you.

	Not at all like me					Very much like me	
	1	2	3	4	5		
I often set a goal but later choose to pursue a different one.	1	2	3	4	5		
I have been obsessed with a certain idea or project for a short time but later lost interest.	1	2	3	4	5		
I have difficulty maintaining my focus on projects that take more than a few months to complete.	1	2	3	4	5		
New ideas and projects sometimes distract me from previous ones.	1	2	3	4	5		
I finish whatever I begin.	1	2	3	4	5		
Setbacks don't discourage me	1	2	3	4	5		
I am diligent	1	2	3	4	5		
I am a hard worker	1	2	3	4	5		

Appendix R

Study 2 - Self-description Questionnaire III Problem Solving Scale

Some questions about you

For each statement please circle the number that applies most to you.

	Definitely False	False	Mostly False	More False Than True	More True Than False	Mostly True	True	Definitely True
I am never able to think up answers to problems that haven't already been figured out.	1	2	3	4	5	6	7	8
I am good at combining ideas in ways that others have not tried.	1	2	3	4	5	6	7	8
I wish I had more imagination and originality.	1	2	3	4	5	6	7	8
I enjoy working out new ways of solving problems.	1	2	3	4	5	6	7	8
I am not much good at problem solving.	1	2	3	4	5	6	7	8
I have a lot of intellectual curiosity.	1	2	3	4	5	6	7	8
I am not very original in my ideas thoughts and actions.	1	2	3	4	5	6	7	8
I am an imaginative person.	1	2	3	4	5	6	7	8
I would have no interest in being an inventor.	1	2	3	4	5	6	7	8
I can often see better ways of doing routine tasks.	1	2	3	4	5	6	7	8

Appendix S

Study 2 - Self Description Questionnaire III Honesty and Trustworthiness Scale

For each statement please circle the number that applies most to you.

	Definitely False	False	Mostly False	More False Than True	More True Than False	Mostly True	True	Definitely True
I often tell small lies to avoid embarrassing situations.	1	2	3	4	5	6	7	8
People can always rely on me.	1	2	3	4	5	6	7	8
Being honest is not particularly important to me.	1	2	3	4	5	6	7	8
I nearly always tell the truth.	1	2	3	4	5	6	7	8
I sometimes take things that do not belong to me.	1	2	3	4	5	6	7	8
I never cheat.	1	2	3	4	5	6	7	8
Being dishonest is often the lesser of two evils.	1	2	3	4	5	6	7	8
I am a very honest person.	1	2	3	4	5	6	7	8
I would feel OK about cheating on a test as long as I did not get caught.	1	2	3	4	5	6	7	8
I value integrity above all other virtues.	1	2	3	4	5	6	7	8
I am not a very reliable person.	1	2	3	4	5	6	7	8
I have never stolen anything of consequence.	1	2	3	4	5	6	7	8

Appendix T

Study 2 - Self Description Questionnaire III Emotional Stability Scale

For each statement please circle the number that applies most to you.

	Definitely False	False	Mostly False	More False Than True	More True Than False	Mostly True	True	Definitely True
I am usually pretty calm and relaxed.	1	2	3	4	5	6	7	8
I worry a lot.	1	2	3	4	5	6	7	8
I am happy most of the time.	1	2	3	4	5	6	7	8
I am anxious much of the time.	1	2	3	4	5	6	7	8
I hardly ever feel depressed.	1	2	3	4	5	6	7	8
I tend to be highly-strung, tense, and restless.	1	2	3	4	5	6	7	8
I do not spend a lot of time worrying about things.	1	2	3	4	5	6	7	8
I am often depressed.	1	2	3	4	5	6	7	8
I am inclined towards being an optimist.	1	2	3	4	5	6	7	8
I tend to be a very nervous person.	1	2	3	4	5	6	7	8

Appendix U

Study 2 - Flourishing Scale

Some questions about you

For each statement please circle the number that applies most to you.

	Strongly disagree	Disagree	Slightly disagree	Mixed or Neither agree or disagree	Slightly agree	Agree	Strongly agree
I lead a purposeful and meaningful life	1	2	3	4	5	6	7
My social relationships are supportive and rewarding	1	2	3	4	5	6	7
I am engaged and interested in my daily activities	1	2	3	4	5	6	7
I actively contribute to the happiness and well-being of others	1	2	3	4	5	6	7
I am competent and capable in the activities that are important to me	1	2	3	4	5	6	7
I am a good person and live a good life	1	2	3	4	5	6	7
I am optimistic about my future	1	2	3	4	5	6	7
People respect me	1	2	3	4	5	6	7

Appendix V

Study 2 - Background Information Questionnaire

Some final questions about you.

Your programme at Carleton is:

Year of birth **You are:** **Male** **Female**

What is your mother's level of education?

- a. High school
- b. Some college or university
- c. College degree
- d. Undergraduate degree
- e. Master's degree
- f. Doctorate
- g. N/A

What is your father's level of education?

- h. High school
- i. Some college or university
- j. College degree
- k. Undergraduate degree
- l. Master's degree
- m. Doctorate
- n. N/A

What type of home did you live in growing up?

- o. Rented
- p. Owned
- q. Do not know
- r. Do not wish to say

Compared to other families growing up, we were:

- s. Much worse off
- t. Worse off
- u. About the same
- v. Better off
- w. Much better off

Thank you!