**A Prototype Analysis of Adolescents’ Perceptions of Wellbeing: Implications for Schools**

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Address

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# **Abstract**

The principal aim of the research was to investigate adolescents’ conceptualizations of wellbeing. Specifically, four studies examined New Zealand adolescents’ perceptions of components of wellbeing and pathways to wellbeing and, subsequently, compared the results with researchers’ and New Zealand adults’ conceptualizations of wellbeing. Two hypotheses were tested: that wellbeing is prototypically organized and that school socioeconomic decile moderates the relationship between component centrality and adolescents’ conception of wellbeing. Results demonstrated that wellbeing is indeed prototypically organized as some wellbeing components were associated more closely to adolescents’ cognition of wellbeing than others. Thus, evidence was found that adolescents conceptualize wellbeing largely as being happy, enjoyment/having fun, feeling good, feeling safe, good mental health and being kind/helpful. Interestingly, socioeconomic decile influenced these perceptions of adolescents to some extent. While there was some overlap in low and high decile school adolescents’ wellbeing perceptions, low decile school adolescents significantly considered comfort/being wealthy, being focused, good physical health, good values and success/achievements as more important components of wellbeing than high decile school adolescents. Throughout, evidence showed that these conceptualizations of adolescents are substantially distinct than researchers’ and New Zealand adults’ conceptualizations of wellbeing. Consistent with the current literature, however, adolescents reported that positive family relationships, positive friendships, and physical activity/sport are most important ways of promoting their wellbeing. Implications for school counsellors, educators, psychologists, academics and policymakers are discussed with directions for future research.

**Keywords:** early? adolescents, prototype analysis, wellbeing, well-being, intermediate schools

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# Introduction

Over the last decade, the field of positive psychology has received increased attention at the macro and micro levels and recommendations have been made to embed the science of wellbeing in schools ([Green, Oades & Robinson, 2011](#_ENREF_22); [Norrish, Williams, O’Connor & Robinson, 2013](#_ENREF_34)). Not only have the United Nations acknowledged schools as important sites for realizing adolescents’ basic right of wellbeing ([Soutter, O’Steen & Gilmore, 2012](#_ENREF_46)), educational curriculums in countries such as New Zealand and Australia have been refined recognizing wellbeing as a “key learning outcome” ([Baker, Green & Falecki, 2017](#_ENREF_2); [New Zealand Ministry of Education, 2007](#_ENREF_32)). These changes are encouraged, in part, by interest in the potential benefits of adolescents’ wellbeing. For example, a burgeoning research has demonstrated that wellbeing is positively associated with favorable behavioral and academic outcomes ([Dix, Slee, Lawson & Keeves, 2012](#_ENREF_16); [O’Connor, Sanson, Toumbourou, Norrish & Olsson, 2016](#_ENREF_35)) whereas negatively associated with undesirable school outcomes such as academic stress ([Zhong, 2009](#_ENREF_52)), loneliness ([Shaheen, Jahan & Shaheen, 2014](#_ENREF_43)) and risky behaviors ([Resnick, 2000](#_ENREF_38)). Thus, there is considerable evidence to believe that there are positive implications of adolescents’ wellbeing for the society.

Despite these developments and merits of high levels of wellbeing of adolescents, wellbeing initiatives for early adolescents have seemed to be either progressing solely in theory or been largely unsuccessful in practice for overlooking adolescents’ participation. For example, even though adolescents have been regarded as “advisers of scientific work” ([Sarriera & Bedin, 2017](#_ENREF_40)) capable of expressing their opinions ([Casas, 2011](#_ENREF_7); [United Nations General Assembly, 1989](#_ENREF_48)), insufficient knowledge exists about early adolescents’ conceptualizations of wellbeing. Specifically, not much is known about how adolescents define wellbeing and what they think enhances their wellbeing. On the contrary, scholars have proposed a variety of definitions of wellbeing and adults’ conceptualizations of wellbeing are also known.

**Research on conceptualizations and definitions of wellbeing**

Several definitions of wellbeing exist in the academic literature. Albeit these definitions depict researchers’ widespread consensus that wellbeing is a multidimensional concept, the term is nebulous, and there are general disagreements among researchers in its conceptualization ([Diener, 2009](#_ENREF_13); [Diener, Scollon & Lucas, 2003](#_ENREF_14); [Hone, Schofield & Jarden, 2015](#_ENREF_23); [Huppert & So, 2013](#_ENREF_24); [Westerhof & Keyes, 2010](#_ENREF_51)). Precisely, researchers’ wellbeing definitions vary due to the variations in their philosophical tradition. For example, [Norrish et al. (2013)](#_ENREF_34) reviews that explanations of wellbeing can be characterized as having components of hedonic approach (affective aspects or feeling good), eudaimonic approach (psychological aspects or functioning well) or more recently holistic approach (comprising components of both hedonic and eudaimonic tradition i.e. feeling good, functioning well and social wellbeing). Informed by these approaches, several models have been proposed that delineate substantially different components of wellbeing. (🡨 keep or leave?)For example, some components listed in [Keyes (2005)](#_ENREF_26) model such as social growth, positive affect and personal growth are not mentioned in [Diener et al. (2009)](#_ENREF_15) model. Similarly, [Seligman (2011)](#_ENREF_42), one of the founders of Positive Psychology, identified five components of wellbeing in his PERMA model (such as positive emotion, engagement, relationships, meaning and purpose, and accomplishment) whereas [Huppert and So (2013)](#_ENREF_24) extended the PERMA model to include ten components of wellbeing (such as positive relationships, positive emotions, self-esteem, emotional stability). Due to this lack of consensus in the components of wellbeing, the assessment and measurement of wellbeing remain haphazard. For example, an individual diagnosed with high wellbeing as per one model may be identified as experiencing low wellbeing as per another model. In addition, making a choice among wellbeing models is a dilemma for educators and psychologists. Therefore, to define wellbeing with greater precision, there have been few empirical attempts at examining lay conceptions of wellbeing.

Although only very recently scholarships on lay conceptualizations of wellbeing have gained momentum, these are either limited by their methodology or their sample. For example, [Hone et al. (2015)](#_ENREF_23), via prototype analysis, demonstrated that New Zealand adults essentially conceptualize wellbeing as good mental health, good physical health, good relationships, work-life balance and feeling valued. These conceptualizations of adults were discussed to be relatively distinct than scientists’ conceptualizations of wellbeing. While the methodology of this study was systematic, the sample was predominantly mono-ethnic. Similarly, [Soutter et al. (2012)](#_ENREF_46) gathered senior secondary school students’ (aged 17-21) notions of wellbeing utilizing purely qualitative and analytic strategies under the umbrella framework of their own Student Wellbeing Model. In another study, [Anderson and Graham (2016)](#_ENREF_1) examined associations between student voice and wellbeing in schools in Australia. One of their research objectives was to explore wellbeing perceptions of children and adolescents (aged 6 to 18) by asking their participants to rank two pre-defined concepts of wellbeing based on academic models. While the authors found support for recognition and participation as important components of adolescents’ concept of wellbeing, their study was limited by methodology as the survey format restricted choice between two academic concepts of wellbeing and they did not utilize a free-response format to represent adolescents’ views. Although these recent attempts at recognizing adolescents’ conceptions of wellbeing have shown limitations, they have recommended appraisal of wellbeing notions in different populations with different demographics.

Thus, to our best knowledge, only one study has explored early adolescents’ conceptions of wellbeing and the remaining studies have focused on older mono-ethnic samples. Also, no study has utilized prototype analysis strategy to study adolescents’ wellbeing conceptions. Specifically, a literature search in PsycInfo database with keywords “wellbeing OR well-being”, “prototype analysis” and “adolescents” generated zero results. Similarly, we have observed a lack of research pertaining to adolescents’ perceptions of pathways to wellbeing.

**Research on pathways to wellbeing**

While a body of work has been dedicated to promoting the health of adolescents ([for e.g., Viner & Macfarlane, 2005](#_ENREF_49)), inconsiderable attention has been given to enhancing adolescents’ wellbeing in schools let alone obtaining their unique views about pathways to wellbeing. In the context of wellbeing promotion in schools, the role of positive education is notable. [Green et al. (2011)](#_ENREF_22) defined positive education as the application of positive psychology in the educational settings. In her book, [Norrish (2015)](#_ENREF_33) has described the Geelong Grammar school’s positive education model with six components: positive purpose, positive relationships, positive emotion, positive health, positive engagement and positive accomplishment. She has also discussed pathways to implement positive education framework in schools. However, [Baker et al. (2017, p. 2)](#_ENREF_2) have stressed that positive education paradigm has not sufficiently matured and is still in its “youth”. For example, critics have emphasized that more rigorous positive education interventions are needed ([Kristjánsson, 2012](#_ENREF_27)) to address the lags between theory and practice ([Baker et al., 2017](#_ENREF_2); [Seligman, Steen, Park & Peterson, 2005](#_ENREF_41)).

A more recent critic of applying “standard protocol approach” ([Cook, Kilgus & Burns, 2018, p. 2](#_ENREF_10)) by schools is the precision education approach that argues applying the same model to everyone is equal to “shooting in the dark” ([Shoham & Insel, 2011, p. 480](#_ENREF_44)) and that interventions in schools must represent individuals’ characteristics, needs and culture. In addition, [Cook et al. (2018)](#_ENREF_10) highlighted that school interventions have frequently, not invariably, resulted in disappointing outcomes, due to their lack of recognition of individuals’ opinions and needs. Whatever the reasons for such results, there have been inadequate attempts by schools and researchers to merge the science of wellbeing and education (also see, [Baker et al., 2017](#_ENREF_2); [Norrish, 2015](#_ENREF_33)) especially in intermediate schools (also known as middle schools). Attempts at modifying the strategies to suit a specific group are far less regardless of its theoretical and practical advantages.

## Importance of adolescents’ wellbeing perceptions

Lack of knowledge of adolescents’ understanding of wellbeing is an important limitation in the wellbeing literature since there are numerous ways in which these lay perceptions can guide assessment, measurement, research and application of wellbeing in schools ([importance of lay perceptions in general have also been discussed in other prototype research such as Kearns & Fincham, 2004](#_ENREF_25)). Firstly, experts utilize self-report measures to assess and measure wellbeing and it is likely that adolescents’ responses to the questions correspond to their conceptualization of wellbeing. For example, an adolescent may or may not consider “engagement” as an important aspect of wellbeing which may impact their diagnosis. Secondly, adolescents’ wellbeing perceptions may possibly inform current wellbeing research and models and potentially free the scholars from the confusion that currently exist in the wellbeing literature. Thus, a key step is to compare adolescents’ notions of wellbeing with the current research models to facilitate advancement of wellbeing science. With regards to application of wellbeing, it is quite likely that the outcomes of interventions are affected by adolescents’ perspectives of pathways to wellbeing. For example, it is essential to determine if the strategies used by school practitioners are understandable by adolescents and if adolescents also regard them crucial in their wellbeing promotion.

Further support of scientific significance of examining lay perceptions of wellbeing comes from two recent studies. [Blaskova and McLellan (2017)](#_ENREF_3) have concluded that studies tailored to adolescents’ needs and perceptions are vital, and that generalizing inferences drawn from adults to adolescents is received critically. Their findings also implied that adolescents’ “active voice” in school promotes their “educational and developmental needs”. Similarly, [Anderson and Graham (2016)](#_ENREF_1) emphasized the significance of adolescents’ school participation for adolescents’ wellbeing. In sum, it is rather “alienating” for experts to define adolescents’ wellbeing without encouraging adolescents’ participation in describing wellbeing ([Hone et al., 2015](#_ENREF_23)). Therefore, the current study will address this gap by investigating adolescents conceptualizations of wellbeing utilizing a prototype analysis approach.

## A Prototype analysis perspective

Prototype analysis, a mixed-method approach, has been argued to be an effective method of analysis for natural language categories such as wellbeing ([Hone et al., 2015](#_ENREF_23)), happiness, fear ([Fehr & Russell, 1984](#_ENREF_20)), gratitude ([Lambert, Graham & Fincham, 2009](#_ENREF_28)), forgiveness ([Kearns & Fincham, 2004](#_ENREF_25)), infidelity ([Weiser, Lalasz, Weigel & Evans, 2014](#_ENREF_50)) and love and commitment ([Fehr, 1988](#_ENREF_19)). For a comprehensive review of the strategy read [Fehr (1988)](#_ENREF_19) and [Kearns and Fincham (2004)](#_ENREF_25). Prototype method assumes that some components are more important or central to a concept and others are less important or peripheral. Consequently, all components of the concept are not equally representative of that concept in prototype approach contrary to the classical view of the concepts where category membership is determined by necessary and sufficient criteria ([Rosch, 1975](#_ENREF_39)). Prototype approach helps in identifying a “fuzzy collection” of the central components of a concept (also called prototypes) by means of ranking rather than identifying critical components ([Lambert et al., 2009, p. 1195](#_ENREF_28)).

[Rosch (1975)](#_ENREF_39) listed two essential conditions for testing a concept’s prototype structure: a) the participants should be able to list the features of the concept and rate which components are more central to the concept b) the centrality rating of the components should influence the participants’ cognition of the concept. These conditions are reflected in the current research.

## Aims and objectives of the present research

Given the surge of interest in wellbeing and adolescents’ opinions combined with insufficient research in the area, the objective of the current study was to investigate adolescents’ perceptions of components and pathways regarding wellbeing. In simpler words, we examined what early adolescents think wellbeing is and what they think builds their wellbeing. The main question and sub-questions of interest were:

1. What are the perceptions of New Zealand adolescents aged 11-13 years about wellbeing and pathways to wellbeing?
2. Whether adolescents perceive wellbeing prototypically?
3. Whether adolescents’ conceptions of wellbeing align with the current academic models of wellbeing and New Zealand adults’ conceptualizations of wellbeing?
4. Does school decile influence adolescents’ perceptions of wellbeing?

To sort the sense of wellbeing for the school community, adolescents’ wellbeing perceptions were compared with academic models and adults’ conceptualizations of wellbeing.

Because wellbeing perceptions are “likely to be influenced by demographic characteristics” ([Blissett, 2011 as cited in Hone et al., 2015, p. 111](#_ENREF_4)), adolescents were recruited from schools located in two distinct regions with different demographic characteristics.

# Methodology

## Overview

Four studies were conducted to address the aim using three different samples. In Study 1, participants listed the components of wellbeing in a free-response format. A different sample of participants rated the centrality of the components in Study 2. In Study 3, central components of wellbeing were hypothesized to be related more closely to the cognition of wellbeing than the peripheral components. Study 4 investigated adolescents’ perceptions of the pathways to wellbeing.

Modified convenience sampling approach was used for participant recruitment. The approach was modified in a way that the participants were chosen as per convenience but preference was given to the school type (intermediate schools with Years 7 and 8) and decile (1 and 10). In New Zealand, school decile (also known as school socioeconomic decile) is a key measure of school’s student community’s socioeconomic status relative to other schools. So, Decile 1 school draws the highest proportion of students from low socioeconomic areas whereas Decile 10 has the smallest proportion of students coming from low socioeconomic areas” ([2018](#_ENREF_18)).

Ethical approvals were gained from Auckland University of Technology’s Ethical Committee (17/60). Participant and parent information sheets were handed over two weeks before the survey administration for each study. The surveys were anonymous and involved minimal risk so parental consent was not required. The data and participant assents were collected electronically. A registration system was used to determine the participants’ demographic characteristics whereby participants completed and submitted a demographic profile and then accessed the survey. Sign in dates on the data provided school decile information. Total participants across the studies were *n* = 361. Pens were given to all the participants as incentives.

## Study 1: Free Listing and Compilation of Prototypic Wellbeing Components

The aim of the first study was to compile a list of wellbeing components with a free-response format survey.

**Method**

## ***Participants.***The sample comprised of 125 adolescents (65 boys and 60 girls) from two Auckland intermediate schools. There were 38% participants from low decile school (i.e. 48 from Decile 1) and 62% from high decile school (i.e. 77 from Decile 10) from Year 7 (46%) and Year 8 (54%) aged 11(39%), 12 (55%) and 13 (6%). Approximately 53% of the sample was New Zealand European. The remaining participants were Maori (11%), Pacific Islanders (18%), or Asian (7%). An additional 4% of participants reported that they belonged to African/Middle Eastern ethnic group. Approximately 7% of participants indicated that they were of mixed ethnicity.

***Procedure.*** Participants were given the following instructions ([adapted from Fehr & Russell, 1984, Study 6](#_ENREF_20)):

This is a study on what young New Zealanders of your age think of when they think of the word wellbeing. For example, if you were asked to list the components of fear, you might write: possible danger occurs, heart beats wildly, eyes open wider, the person runs as fast as they can. Similarly, if you were asked to write the components of sadness, you might write: feelings of disappointment, becoming quiet and lazy, crying. In the current study, we are not interested in fear or sadness, but in the characteristics of wellbeing. Imagine that you are explaining the word wellbeing to someone who does not know about wellbeing and answer the following question: What, in your opinion, are the components of wellbeing? List as many as you can. Remember this is not a test and there are no wrong or right answers. There is no time limit but people of your age take 15 minutes. Do not discuss with your friends since we are only interested in your opinion.

The participants were additionally instructed to click the submit tab after response completion.

***Analysis.*** A list of verbatim responses was prepared, only correcting for spelling. A total of 551 linguistic units were generated, yielding an average of 4.4 components per participant (approximately 4.6% for high decile school participants and 4% for low decile school participants). Adhering to the coding procedure outlined in [Fehr (1988)](#_ENREF_19) two broad steps of analysis were undertaken, similar to prototype analyisis research([Fehr & Russell, 1984](#_ENREF_20); [Hone et al., 2015](#_ENREF_23); [Kearns & Fincham, 2004](#_ENREF_25); [Lambert et al., 2009](#_ENREF_28); [Weiser et al., 2014](#_ENREF_50)). The first step involved identifying and extracting monolexemic linguistic units, such as “energetic”, “happy” and “joyful”,which were distinct and easily recognizable. When participants used a phrase, author’s judgment was necessary for deciphering if the phrase comprised of one or more components. For example, “others don’t put you down” and “joy in basic luxury such as running water” were judged to convey one thought and noted as individual units whereas “completing something or doing something right” were judged to convey two thoughts and noted as two separate units. Note that linguistic units containing phrases were only separated in terms of meaning, the unit largely remained unchanged and original. The linguistic units that were preceded by attributive words, such as “lots of energy” were coded as a single item. The frequencies of each distinct linguistic unit were noted in the list and after deleting for duplicates 205 units remained.

After mapping out the obvious linguistic units (with the help of word frequency tools and reading of the text), the second step was condensing and assigning the linguistic units to a component category. Single unique words were formed into independent categories. For example, the linguistic unit “being happy” was allocated to the category “being happy”. Two criteria based on semantic and linguistic similarity assisted in classifying items to an identical component category a) words with similar grammatical forms were categorized together, for

example, “being happy”, “happiness” and “happy” were treated as a single component category b) similar meaning words or synonyms were added to the same component category, for example, “cheerful”, “joyful” and “smiling” were assigned to the category “being happy”. Throughout the process, coders carefully and logically employed a conservative approach in creating a component category also avoiding for any redundancy. For example, the unit “belief in your abilities” was categorized as “belief in your abilities” rather than self-efficacy. However, phrases around encouragement and respect were collapsed to the category “being respected/encouraged”. Since the participants were school children, spelling errors were apparent along with partial word responses. Also, similar replies in terms of meaning and structure were noticed in the same response (such as “happy, excited, joyful” and “I’m happy, I’m fine, I’m feeling fine”). Therefore, a considerable number of linguistic units were either associated semantically or linguistically that were classed to the same component category to avoid repetition. Some linguistic units were too broad to be approached as a component category, thus necessitating examination of the adjoining words in the response. for example, the unit “healthy” was judged to be a part of the category “good physical health” as it followed or preceded the words having a physical dimension such as “active and healthy” and “being healthy and fit”. Sufficient literature was reviewed prior to assigning such categories. For instance, [Singletary et al. (2014)](#_ENREF_45) in their study with 13-year-olds demonstrated that “young people perceive being healthy to mean being physically healthy”.

Discrepancies among coders were resolved through discussion. Various responses were idiosyncratic i.e. mentioned by only one participant. Any component that was listed by less than 2% of the sample (39 components) was discarded from future analyses to reduce the burden on participants of the next study. The raw data of the study is available.

***Results.*** Table 2 (see Appendix A on page 35) shows 26 components of wellbeing with the percentage of participants that listed a component. The frequency of each component in the text is also mentioned. Note that how frequently each component occurred in the text was different than the percentage of participants that mentioned a component. More than 70% of the sample listed being happy as a component of wellbeing followed by being kind/helpful (35%) and good physical health (34%). The responses across participants were rather inconsistent and no component was listed by all 125 participants. Some components came to mind less than others. For example, being focused (2.4%), contentment/peace (3.2%) and being grateful (3.2%) were the least listed components. Table 3 (see Appendix B on page 36) depicts the percentage of participants that listed each component in low and high school deciles. Both school deciles frequently listed being happy as a wellbeing component. While the low decile school participants listed being kind/helpful second (56%), the component moved into third place for the high decile schools participants (22%).

## *Discussion.* Many responses were reduced to a limited number of components comparable to the results of other prototype studies ([Hone et al., 2015](#_ENREF_23); [Kearns & Fincham, 2004](#_ENREF_25); [Weiser et al., 2014](#_ENREF_50))

Adolescents generated 551 responses that indicate their awareness of the concept of wellbeing. Three components appeared most frequently in the text: being happy, being kind/helpful and good physical health. To some extent, these results resonate with Hone and colleagues ([2015](#_ENREF_23)) first study with New Zealand adults. While both adults and adolescents frequently listed being happy and good physical health as components of wellbeing, only 13% of the adolescents mentioned interpersonal relationships as a component of wellbeing compared to 49% adults which was the second highest listed component after good physical health for adults. In alignment with the early adolescents’ wellbeing perceptions, [Soutter et al. (2012)](#_ENREF_46) in their research with 17 to 21-year-olds demonstrated the significance of feeling well (equivalent to the components feeling good and being happy in the present study), relating well (good relationships in the present study) and having possessions (comfort/being wealthy in the present study) as components of wellbeing. Another important observation is adolescents listing of “feeling safe” in the present and previous research ([Anderson & Graham, 2016](#_ENREF_1)).

New components of wellbeing were also evident. For example, the components being kind/helpful, good values, good temperament/behavior, being focused and belief in your abilities are unique to the intermediate adolescents’ concept of wellbeing and have not been discussed as separate components of wellbeing. Even though “values” and character strengths such as “kindness” underpin the Geelong Grammar school’s positive education model in Australia, these have not been specified as exclusive components of wellbeing instead they only provide “links” between the wellbeing components in this model ([Norrish, 2015](#_ENREF_33)).

The group comparisons revealed that both decile groups substantially listed being happy, good physical health and being kind/helpful as the components of wellbeing. Even though some dissimilarities in their cognition were apparent with respect to components good physical health, enjoyment/having fun and being respectful, an overall scan of the percentages in Table 3 depicts only a marginal difference in the thought patterns of low and high school deciles participants in the listing phase.

Overall, the prototype of wellbeing includes beliefs, feelings, and actions. Participants listed cognitive states such as contentment/peace as components of wellbeing including mindsets and beliefs such as belief in your abilities and positive attitude/optimism. Interestingly, many ‘behaviors’ were perceived as components of wellbeing such as being kind/helpful and being expressive. Some emotive states were also listed by the participants which include being happy, and feelings such as feeling calm and relaxed and feeling good. This result points to the fact that adolescents consider wellbeing as a multidimensional concept which is in consonance with researchers’ concept of wellbeing. Also, of importance is the holistic amalgamation of hedonic, eudaimonic, physical, social and spiritual aspects in their cognition about wellbeing comparable to [Durie (1985)](#_ENREF_17) Te Whare Tapa Whā model of health.

## Study 2: Centrality Ratings of Wellbeing Components

The purpose of Study 2 was to determine the centrality of the components identified in Study 1. If a concept truly possesses a prototypical structure, the individuals should not only be able to list the components of a concept but also rate how central or peripheral each component is to their concept of wellbeing with substantial agreement on these ratings. Thus, a different group of participants judged how important or unimportant each component was to their concept of wellbeing and then their judgments were examined for agreement. Impact of socioeconomic decile on centrality ratings was also examined.

#### Method

***Participants.*** The sample was comprised of 122 intermediate school students (65 boys and 57 girls) from Year 7 (39%) and Year 8 (61%) of age 11 (32%), 12 (57%) and 13 (11%). There were 34% of participants from low decile school (42) and 66% (80) from a high decile school. Approximately 56% were of European background, 13% were Maori and 12% were Pacific Islanders. Some participants indicated that they were Asian (7%) or African (2%). About 10% of participants reported that they were of mixed ethnic background (including reports of Maori European, Pacific Maori or Pacific European).

***Procedure.*** Participants filled in the registration details and accessed the online survey. Participants were given the following instructions:

In a previous study, we asked students of your school level to tell us their views on wellbeing. Specifically, we asked them to list the components of wellbeing that came to their mind when they thought of the word wellbeing. On the next page, you will read the responses of the students in our earlier study in alphabetical order. Please first quickly scroll through all the 26 descriptions of wellbeing. After you have read each one, please rate how important you think each of the components is to your concept of wellbeing. Basically, you do so by rating each component on a scale of 0 (an extremely poor component of wellbeing) to 10 (an extremely good component of wellbeing).

***Results.*** Table 2(Appendix A) shows the mean centrality ratings of the components in descending order. Two indices provided evidence for the reliability of the means. First, the intra-class correlation coefficient was computed, which is equivalent to the mean of all possible split-half correlations of the 122 judges with respect to the 26 components (ICC = .910, *p* < .000, average measures), which indicates excellent inter-rater reliability. Further analyses, based on a flipped data matrix and treating the 26 components as cases and the 122 participants as items, showed that the internal consistency of the ratings was exceptionally high (α = 0.964).

Correlation between centrality ratings in Study 2 and participants’ listing percentage in Study 1 was moderately positive (rs (rho)= 0.522, p< .01 one-tailed). Nearly half of the components were listed frequently and given high centrality ratings (e.g., being happy), whereas some components that were frequently mentioned in Study 1 received a relatively lower centrality rating in Study 2 (e.g., good physical health). Figure 1 (see Appendix C on page 37) shows a scatterplot graph illustrating the relationship between Study 1 and Study 2 component rankings. For example, feeling good was ranked third in Study 2 but fourth in Study 1.

A Mann-Whitney test was conducted to examine if there were differences in mean centrality ratings of 26 components as a function of school decile. Results revealed that significant differences exist in mean centrality ratings of 5 components. Specifically, individuals in low decile school considered the following as more important components of wellbeing than high decile school group:

*being focused* (Md low decile = 8, Md high decile = 7, U = 1161.00, z = −2.82, p = 0.005, r = 0.26), *comfort/wealthy* (Md low decile= 7.5, Md high decile = 6, U = 1148.00, z = −2.89 p = 0.004, r = 0.26), *good physical health* (Md low decile= 10, Md high decile = 8, U = 1072.50, z = −3.35, p = 0.001, r = 0.30), *good values* (Md low decile= 10, Md high decile= 8, U = 1173.50, z = −2.80, p = 0.005, r = 0.25) and *success/achievements* (Md low decile= 9, Md high decile= 8, U = 1161.50, z = −2.84, p = 0.004, r = 0.26). Using [Cohen (1988)](#_ENREF_9) criteria ([as cited in Pallant, 2013](#_ENREF_36)), we can say that good physical health has shown a medium effect size. Figure 2 (see Appendix D on Page 38) depicts a bar graph comparing low and high school decile groups’ centrality ratings of these 5 components.

***Discussion.*** The data demonstrate that adolescents perceive wellbeing components as central and peripheral, thereby, fulfilling the first condition for ascertaining a concept’s prototypical structure. For example, being happy, enjoyment, feeling good and feeling safe were perceived as central whereas an absence of sadness, comfort/being wealthy and being expressive were considered peripheral and less prototypical of wellbeing. It is noteworthy that New Zealand adolescents’ perceptions about centrality substantially differed with New Zealand’s workers’ perceptions which are examined thoroughly in the General Discussion section.

Some disparities were apparent in Study 1 and Study 2 data attributable to the distinct cognitive processes associated with listing and rating components ([Fehr, 1988](#_ENREF_19)). The way we recall something requires different heuristics than rating a predetermined list, which is consistent with prototype research ([Kearns & Fincham, 2004](#_ENREF_25)). Interestingly, school decile significantly impacted the ratings of five components. However, the differences in perceptions were not significant for 21 components. This result indicates that largely low and high decile groups have parallel thought patterns about wellbeing with unique variations in perceptions regarding some aspects.

**Study 3: Impact of Component’s Centrality on Cognition of Wellbeing**

Study 3 investigated whether components’ centrality had an impact on participants’ understanding of wellbeing. Specifically, the hypothesis was, if wellbeing is prototypically organized, central components must be perceived as more representative of the concept of wellbeing than peripheral components. The interaction between school decile and component centrality on cognition was also tested. Since the first two studies fulfilled the first condition of prototype analysis procedure, Study 3 tested the second condition. A different sample was presented descriptions of two imaginary persons portraying the central and peripheral components of wellbeing identified in Study 2.

**Method**

***Participants.*** Participants were 114 New Zealand adolescents (60 boys and 54 girls) from a low decile (37%; 42) and high decile (63%; 72) Auckland intermediate school. Approximately 41% of the participants were from Year 7 and 59% from Year 8. Participants were of different ethnic backgrounds including Maori (12%), Pacific (17%) and New Zealand European (55%). Some reported themselves as Asian (11%) and others as African/Middle Eastern (2%). The remaining identified themselves as of mixed ethnicities (3%). Age of the participants was 12 (58%), 11 (28%) and 13 (14%).

***Procedure.*** For using central and peripheral components of wellbeing in writing the scenarios, we utilized a procedure of median split to divide the Study 2 centrality ratings into central and peripheral categories consistent with other prototype analysis studies. Centrality

ratings higher than 7.98 (median of the 26 ratings) were considered central and the ones lower than this value were considered peripheral (See Table 2 for reference). Even though necessary for the present study, we acknowledge that centrality is continuous and such demarcation is artificial ([Lambert et al., 2009](#_ENREF_28)).

Participants were presented with two imaginary scenarios describing central (Sam’s scenario) and peripheral (Laura’s scenario) components of wellbeing. Mean centrality scores of central and peripheral components were 8.38 and 7.22 respectively.

Sam’s wellbeing: Sam is *happy* and *feels good*. He is known for his *kindness and helpful nature*. When he is at school, he *believes in his abilities* to accomplish his set goals. When he is not at school, he engages in *fun activities* that he likes for the sake of his *enjoyment*. In general, he *feels emotionally and physically safe* at his school and at his home. What’s more, his school counsellor recently informed him that he has *good mental health*.

Laura’s wellbeing: Laura is *energetic*. She *does not feel sad*. *Being expressive* by nature, she likes interacting with her classmates during class discussions. She experiences a *sense of satisfaction* when she *focuses* on her school work. Although she is from a *wealthy* family and leads a comfortable life, she finds *contentment and peace* in life’s small blessings.

Participants were instructed to rate how closely each scenario matched with their idea of wellbeing on an eleven-point scale (0 = extremely poor match to 10 = extremely good match).

***Results.*** Adolescents rated central scenario higher than the peripheral scenario (Sam’s mean = 8; Laura’s mean = 7.26). Mean difference in scores was 0.74, with a 95% confidence interval ranging from 0.21 to 1.27. The data distribution was non-normal (left-skewed), therefore, Generalized Linear Mixed Model (GLMM) with fixed effects were used to examine the impact of centrality and school decile on cognition of wellbeing, which is an appropriate method of analysis for studying interaction effects for non-normal distributions. Results showed that effect of centrality on scenario selection was significant with 95% confidence (p = 0.037 < 0.05; Bonferroni adjusted significance level). The interaction effect between participants’ school decile × centrality (central or peripheral) on their representation of wellbeing was significant (p = 0.030 < 0.05), hence the selection of the scenarios was moderated by school decile. Figure 3 (see Appendix E on Page 39 ) illustrates the interaction between school decile and scenario selection. Low decile scenario SD was greater than high decile scenario SD which denotes the wider spread of values of low decile group (see Table 1 below that shows the descriptive statistics for the two scenarios).

Table 1

Descriptive statistics for the two imaginary wellbeing scenarios

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| School decile | Scenario | N | M | SD |
| High decile | Sam (central) | 72 | 8.25 | 1.42 |
|  | Laura (peripheral) | 72 | 7.07 | 1.92 |
|  |  |  |  |  |
| Low decile | Sam (central) | 42 | 7.57 | 2.66 |
|  | Laura (peripheral) | 42 | 7.59 | 2.27 |
|  |  |  |  |  |

***Discussion.*** The hypothesis is accepted that wellbeing is prototypically organized in adolescents. To elaborate, while thinking about wellbeing, adolescents give more importance to the central components rather than peripheral components. However, the finding is solely relevant for the high decile school participants (see Table 1 above to compare the scenario means for both the groups). Low decile school participants did not rate the central scenario significantly. These results further suggest that school decile moderates the causal relationship between centrality and cognition of wellbeing.

Interestingly, low school decile group’s perceptions regarding certain components of wellbeing remained consistent in Studies 2 and 3. Ostensibly, the low decile school participants demonstrate a bias towards two components, comfort/being wealthy and being focused that described the peripheral scenario, which may have influenced their ratings in Study 3. Note that the Study 2 low decile group’s centrality ratings of these two components were also significantly different than the high decile group. Furthermore, the low decile group did not rate the peripheral scenario with significant importance (i.e. results were insignificant for peripheral scenario), thereby suggesting against wellbeing not being prototypically organized for low decile group. Perhaps, individuals of a low socioeconomic decile have a different central representation of wellbeing (as predicted by the research) that did not generically surface due to their relative size in the study. Therefore, findings demonstrate that central components of wellbeing and decile specific perceptions are not mutually exclusive and the two must be objectively considered while developing wellbeing models or programs for adolescents.

## Study 4: Pathways to Wellbeing

The aim of Study 4 was to investigate adolescents’ perceptions of the aspects that promote their wellbeing. Thus, Study 1 participants were asked an additional question concerning pathways to wellbeing.

## Method

*Participants.* The participants were same as Study 1 as mentioned in the Participants Section on Page 10**.**

***Procedure.*** Study 1 participants were asked an additional question:

What, in your opinion, enhances your wellbeing? Specifically, which are those aspects of your home, school or society at large that improve your wellbeing?

***Analysis.*** Coding procedure was identical to Study 1. First, monolexemic linguistic units were identified and extracted such as “family”, “learning” and “pets”. Judgement was deemed necessary to decide whether a phrase conveyed one or multiple thoughts. For example, “having help when needed and treated well by others” were retained as two distinct units. Another perspective taken into regard for organizing data was combining identical units as one and noting down their frequencies. For example, all “games” and “watching movies” responses were written only once in the list with the frequency besides them. An elaborate reading of the text with a combined usage of word frequency tools facilitated unit identification. Thus, 565 linguistic units were reduced to 188 with each participant generating an average of 4.52 linguistic units (4.54 for low decile group and 4.50 for high decile group).

Once the component list was prepared, authors allocated 188 linguistic units to a category. Any discrepancies were resolved with discussion. Items similar in grammatical form and conveying the same meaning were classified under one category. Classifying similar units together aided in avoiding redundancy. For example, “my pets”, “playing with my dog”, “having animals”, were categorized under a broader category of “pet ownership and attachment”. Responses such as “beach”, “sunny”, “rain and sunlight make me feel warm and cozy” were categorized under the category “Nature”. Responses were also classified verbatim to depict adolescents’ exact thoughts. For example, “being encouraged” was assigned to “being encouraged” category and wasn’t collapsed into the category “being respected/valued”. Responses such as “feel safe”, “being loved”, “trying new things” were categorized as it is.

Besides following a conservative categorizing approach simultaneously avoiding for redundancy, literature was comprehensively reviewed to assign similar units together and keep the non-similar ones separate, thereby following a balanced approach. For instance, responses about activities that adolescents engage in their free time such as “dance”, “cooking”, “reading”, “drawing”, “baking” were headed under the category “hobbies/doing things that interest you”. Although an activity such as dance may potentially enhance wellbeing ([Burkhardt & Brennan, 2012](#_ENREF_5)), a broad categorizing approach with respect to some units was applied on a strategic account of locating key breadth strategies from an application point of view. Also, reflecting that these “interesting activities” might be unique for every adolescent. Similarly, interpreting broadly, “family wellbeing” was assigned to the category “positive family relationships”, which is considered an aspect of family wellbeing. However, instead of collapsing responses such as ‘netflix’, “computer games”, “watching movies” to the category of hobbies/doing things that interest you, a new category of “entertainment” was created. In addition, responses related to people and respect were divided into separate categories depicting the importance of these responses in the minds of adolescents. For example, “treated well by others” was assigned to the category “being respected/valued” but “around people who make you feel important” was assigned to “around positive people” considering the value given to ‘people’ in this thought. Linguistic units listed by less than 2% of the sample (47) were excluded from further analysis. The raw data of the study is available.

***Results.*** Table 4 (see Appendix F on Page 40) shows the 37 pathway categories created with the coding procedure. More than half of the adolescents considered positive family relationships (60%) and positive friendships (55%) enhance their wellbeing. While about 34% of the participants listed physical activity/sport, 30% listed hobbies/doing things that interest you as important pathways to wellbeing. The mean score of the participants’ listing percentage was 10.8. Thus, any category that was listed by more than 11% of the adolescents has been italicized in the table. Other important pathways were nature (17%), entertainment (16%), socializing and around positive people (13% each), pet ownership and attachment and being kind/helpful (14% each). With respect to the school environment, teacher support and involvement also appeared in the text together with learning, school belongingness, and achievement. Both school decile groups frequently listed positive family relationships, positive friendships and physical activity/sport as important pathways to wellbeing.

### ***Discussion.*** Not a single pathway was listed by all the participants and no participant mentioned all the pathways. Substantial variability in the responses signifies that adolescents have unique perceptions about ways to enhance wellbeing.

The most listed pathway was positive family relationships followed by positive friendships and physical activity/sport. These pathways form the domains of Geelong Grammar School’s Positive Education Model with physical activity/sport recognized as “positive health” encompassing eating healthily and physical activity both. The government frameworks in countries such as New Zealand, Canada, and the United Kingdom identify five evidence-based pathways to wellbeing ([for e.g., see Mental Health Foundation of New Zealand, 2018](#_ENREF_30)) that are reflected in the current study: Connect (similar to positive friendships, positive family relationships, socializing in the current study), Give (being kind and helpful), Be active (physical activity/sport), Take Notice (Nature) and Keep Learning (hobbies/doing things that interest you, learning, trying new things). Surprisingly, adolescents did not list some of the recent pathways to wellbeing as discussed by wellbeing researchers such as mindfulness and gratitude. For example, [Norrish (2015)](#_ENREF_33) discusses the importance of “equipping adolescents with these skills early in life” considering the robust influence of mindfulness programs (including mindfulness meditation) and gratitude exercises on adolescents. Perhaps adolescents lack in knowledge as to how these concepts may impact their life and they focus more on tangible pathways to wellbeing than intangible pathways that are difficult to their understanding.

# General Discussion and Implications

This is one of the first studies that systematically determined intermediate school adolescents’ perspectives of components and pathways regarding wellbeing via prototype analysis and examined the influence of school decile on these perceptions. Given that schools are important sites for enhancing wellbeing, the findings are a guide to the school practitioners and researchers who are engaged in assessment, application, and promotion of early adolescents’ wellbeing in schools.

**Is wellbeing prototypically organized in adolescents?**

Our first finding is that wellbeing is prototypically organized in adolescents. In other words, some components of wellbeing are considered more important than others. For example, enjoyment is more central to adolescents’ concept of wellbeing than a sense of satisfaction. Participants could freely list and rate wellbeing components and components’ centrality significantly affected their cognition of wellbeing. Hence, the research fulfilled the two conditions stated by [Rosch (1975)](#_ENREF_39) in demonstrating a concept’s prototype structure. The finding extends to a body of work with New Zealand’s workers that is evidence of the prototypical structure of wellbeing ([Hone et al., 2015](#_ENREF_23)). Having a prototype structure of wellbeing entails that wellbeing assessment and measurement should take into regard a “fuzzy” ([Lambert et al., 2009, p. 1195](#_ENREF_28)) presence or absence of central components instead of requiring components with an all or none phenomena (for e.g., Keyes, 2005 model require diagnosis of wellbeing with a necessary and sufficient criteria).

**Do adolescents’ perceptions of wellbeing components correspond with researchers’ and New Zealand adults’ conceptualizations?**

Since wellbeing is prototypically structured, adolescents’ wellbeing conceptualizations include central components such as being happy, enjoyment/having fun, feeling good, feeling safe, good mental health, being kind/helpful and peripheral components such as comfort/being wealthy and contentment/peace. These perceptions of adolescents were compared with New Zealand adults’ perceptions of central wellbeing components which are: good physical health, work-life balance and good relationships([for a review read Hone et al., 2015](#_ENREF_23)). The evidence clearly showed that adolescents’ perceptions are incompatible with adults’ perceptions. The lack of similarity in perceptions confirms that researchers and psychologists should weigh the odds (?? Suggest pls, “discontinue”?) of applying same wellbeing interventions to adults and adolescents.

Results were assessed to examine how these components are aligned with the current academic wellbeing models which demonstrated only partial alignment of adolescents’ and scholars’ conceptualizations of wellbeing. While some components correspond to the researchers’ definitions of wellbeing, others are merely recognized as correlates of wellbeing rather than as components. For example, in terms of similarities, components such as being happy, feeling good and good mental health have support from the hedonic and eudaimonic approaches of wellbeing ([Huppert & So, 2013](#_ENREF_24)); However, components such as being kind/helpful and belief in your abilities (or self-efficacy) have not been recognized by researchers as exclusive components of wellbeing but have been shown to impact wellbeing positively ([for e.g., Layous, Nelson, Oberle, Schonert-Reichl & Lyubomirsky, 2012 studied kindness and wellbeing](#_ENREF_29)). While kindness has been discussed as a cornerstone of positive relationships in Seligman (2011) model, results indicate that adolescents regard kindness and positive relationships as separate components and perceive kindness as more important to their concept of wellbeing. Likewise, feeling safe and enjoyment/having fun components are absent from wellbeing models irrespective of their presence in government frameworks of wellbeing and positive mental health ([Canadian Institute for Health Information, 2009](#_ENREF_6); [New Zealand Education Review Office, 2015](#_ENREF_31)). Interestingly, adolescents mentioned respect crucial for their wellbeing equivalent to the results of [Anderson and Graham (2016)](#_ENREF_1) study. This domain has a social connotation to it and may point to the fact that social approval in terms of encouragement and recognition in terms of respect are important for adolescents to some extent, therefore scholars should consider the extent to which it may influence wellbeing.*leave or keep?*

Furthermore, it is interesting to note that the aspects normally observed in academic wellbeing theories such as engagement, optimism, satisfaction, meaning and purpose were listed inconsiderably by adolescents. This lack of alignment between adolescents’ and researchers’ conceptions confuses the sense of wellbeing. Therefore, formulating a broader definition of wellbeing customized to the adolescents’ perspectives as outlined in this research (including components often absent from academic models, such as enjoyment/having fun, feeling safe, being kind/helpful and belief in your abilities) is recommended. It is important to note, however, by suggesting this the authors don’t imply that experts disregard their own judgments. The authors are only suggesting that adolescents’ perceptions of wellbeing inform researchers’ model which may also clarify the understanding of the concept of wellbeing for researchers. Leave or keep?

**How adolescents’ perceptions of pathways to wellbeing correspond with current research and models?**

Many central pathways to wellbeing reflected in our research provide further evidence to the relevance of existing strategies in promoting adolescents’ wellbeing. For example, promoting positive relationships, physical activity and engaging in leisure pursuits such as hobbies are indispensable aspects of the current wellbeing promotion models and we further reinforce their significance in promoting wellbeing in the school context. A plethora of research suggests that contact with nature, including bush-walks, being outside in natural environment and enjoying a sunny day at the beach, therapeutically relaxes body and mind and enhances mental wellbeing ([Sarriera & Bedin, 2017](#_ENREF_40)). Other research has found merits of kindness acts and prosocial behavior in improving adolescent wellbeing ([Layous et al., 2012](#_ENREF_29); [Norrish, 2015](#_ENREF_33)). The results correspond to the previous prototype research conducted on New Zealand workers ([for a review see Hone et al., 2015](#_ENREF_23)).

Nevertheless, some pathways revealed by our research are not depicted in wellbeing promotion models, such as entertainment and pet ownership and attachment that were listed by more than 13% of individuals. [Purewal et al. (2017)](#_ENREF_37) in a systematic review of the literature found evidence of association of pet ownership with adolescents’ mental, academic and social benefits. For a comprehensive review of the advantages and concerns of keeping a classroom pet read [Dancer (2012)](#_ENREF_11). Research on effects of entertainment such as watching movies and gaming on adolescents has been severely criticized previously, however, positive media psychology researchers have focused on the beneficial effects of digital entertainment on adolescents. Because recognizing adolescents’ opinions is essential for their wellbeing, “exposing” them to programs depicting positive behaviors and engaging them in logical games may help them vicariously acquire useful skills such as kindness ([de Leeuw & Buijzen, 2016](#_ENREF_12)). Thus, these pathways (entertainment and pet ownership and attachment) represent useful targets for adolescents’ wellbeing promotion in future. We also recommend Five Ways to Wellbeing model as a starting point to enhancing wellbeing in schools subsequently embedding a more wide-ranging Geelong Grammar School’s Positive Education approach across all levels of the school community.

**Does socioeconomic school decile influence wellbeing perceptions?**

Next finding is that school decile influences adolescents’ perceptions of wellbeing. Whilst the impact of socioeconomic status on adolescents’ wellbeing is known, no study has previously demonstrated the influence of school decile on adolescents’ wellbeing perceptions. Both groups showed similar perceptions in the listing phase. Significant differences were observed in the perceptions in the rating phase, however. Because listing and ranking tap different mental faculties, the finding indicates that the wellbeing perceptions of adolescents (belonging to different suburbs with different socioeconomic standing) are broadly similar but some differences exist in the value given to certain components. For example, results show that there were no differences in rating 21 components, thus indicating considerable similarities in the perceptions of adolescents in both school deciles. Nonetheless, low decile group considered five wellbeing components (*comfort/being wealthy, being focused, success/achievements, good physical health and good values*) more important than high decile group. The differences in rating of these five components may have surfaced due to adolescents’ different socioeconomic status, culture or overall theme of the school. Additionally, school decile moderated the relationship between centrality and cognition of wellbeing in the third study. Consequently, academics, educators and policy makers are recommended to pay attention to the unique aspects of wellbeing perceived by the two decile groups combined with the general aspects of wellbeing perceived by adolescents as a whole.

**Other insights and implications**

The examination of adolescents’ freely listed responses has led to interesting insights regarding their understanding of wellbeing.

Firstly, a large number of responses listed by adolescents indicate their awareness of the concept of wellbeing. There were only 2% of adolescents who did not respond or wrote aspects unrelated to the concept of wellbeing. At the same time, 98% listed components relevant to the field of wellbeing. Numerous scholarships that inform us about the correlates, causes or outcomes of wellbeing have a reference to the components thus generated.

Moreover, multifarious pathways to wellbeing were listed. Most compelling evidence of adolescents’ awareness of the concept of wellbeing comes from the fact that adolescents’ perceptions of pathways to wellbeing show similarity with adult workers’ perspectives.

Nevertheless, with regard to adolescents’ awareness of pathways to wellbeing, it is useful to note that adolescents mentioned relatively tangible pathways such as relationships with family and peers, sport, nature, pets etc. and did not list some abstract or intangible constructs such as mindfulness (as discussed in Study 4 Discussion section on Page 21). While [Norrish (2015, p. 47)](#_ENREF_33) explains this lack of consideration of internal dimensions as adolescents’ occasional “narrow thinking” and their focus on “material possessions”, the present study has contrary results and shows adolescents’ appreciation of “deeper” aspects such as nature and being kind/helpful. For example, some adolescents are perhaps engaged in mindful activities but can’t necessarily give a name to the mental state (due to the lack of education). Therefore, school counsellors and educators should educate the adolescents about these abstract concepts early in life.

Comparison of linguistic units generated for components (551) and pathways (565) implies a similar proposition. Adolescents show a greater awareness of the ways to foster wellbeing rather than the concept of wellbeing. Whether that awareness is due to adolescents’ interest and curiosity in enhancing wellbeing is largely unknown. Perhaps the notion of a component is more abstract than practical ways to foster wellbeing. It is also interesting to note that participants were not imparted wellbeing education. There could be any reason for their awareness, but some effortless awareness at an intuitive level of recognition is evident. Such “intuitive recognition” of the concept “may not be perfect, even though essential before testing or clarifying” adolescents’ meaning of the concept ([Cloninger, 2004, p. 8](#_ENREF_8)). Further empirical research is required, however, to support the notion of intuitive understanding of wellbeing.

Secondly, adolescents demonstrated some overlapping perceptions of the aspects that define and improve wellbeing. Some components of wellbeing were also listed as pathways to wellbeing such as good physical health. This overlap suggests that adolescents are either confused about the ideas of attribute and promotion and can’t differentiate between the two or they suppose a relation between aspects that define versus improve wellbeing. The second assumption has some empirical support ([Hone et al., 2015](#_ENREF_23)). The results stipulate that components mentioned dually varied in frequency. For example, being kind/helpful was listed frequently, equally as a pathway and component, however, good physical health was listed frequently as a component but marginally as a pathway. The variation in frequency might theoretically point to the possibility that adolescents are rather perceptive in discerning the difference between two intricate concepts. They listed a variety of responses that are characteristic of pathway and component, however also showed some overlap. Thus, educators may consider promoting the central components of wellbeing in schools that are not mentioned as pathways. For example, [Froh, Kashdan, Ozimkowski, and Miller (2009)](#_ENREF_21) demonstrated that gratitude intervention enhanced the subjective wellbeing of early adolescents.

Finally, adolescents’ perceptions of wellbeing vary markedly with one another comparable to prototype research with adults. Though it is noteworthy that some components and pathways were collectively stated by a high percentage of adolescents, no component or pathway of wellbeing was mentioned by all of them. This is indicative of the fact that although some wellbeing aspects are perceived universally, some aspects are exclusive to adolescents due to their distinctive characteristics or experiences that may influence their perceptions. Therefore, in examination, application and evaluation of wellbeing; school practitioners, educators and researchers must take into consideration adolescents’ unique worldview together with the generic aspects of wellbeing. Parallel to the [UNESCO (2004)](#_ENREF_47) “curriculum differentiation” approach where a curriculum is “modified to match the learning needs” of an individual, positive education practices ought to be personalized to fit the wellbeing perceptions of an individual, to pave the way for precision education (Cook et al., 2017).

**Limitations and Future Directions**

Self-report measures were used to collect the data so the responses were subjective. For example, how one person perceives feeling good could vary from another person’s perception. Therefore, a useful avenue for future research is to explore adolescents’ perceptions of some aspects of wellbeing (e.g., happiness). Although the presence of quantitative data guided the process of analysis objectively, the coding of responses and their allocation to component and pathway categories posed a potential bias to the research. However, every attempt was made in depicting the true perceptions of adolescents (e.g., responses were coded verbatim and literature was reviewed thoroughly to create categories and later ascribe linguistic units to categories).

The surveys were anonymous so the effect of demographic factors such as gender, education level or ethnicity on adolescents’ wellbeing perceptions could not be examined. Perceptions of wellbeing may be influenced by demographic factors as found in the current study. Therefore, an important direction for future research is to compare gender-based perceptions of wellbeing and investigate how adolescents’ awareness of wellbeing differ across education levels and culture by collecting non-anonymous data.

The current study provides preliminary evidence about the variation in adolescents’ wellbeing prototype as a function of school decile. Even though both groups generated virtually comparable linguistic units, the authors recognize that the sample size of low decile group was relatively smaller than the high decile group in all the studies that may have potentially underrepresented low decile individuals’ views. Taking this into account, future enquiries could assess the findings related to low decile on a larger sample.

The research on lay perceptions of wellbeing is relatively inadequate and recent. The present study is unique in exploring the early adolescent's prototype of pathways and components regarding wellbeing as a function of school decile for the first time. It is essential that further scholarships examine the stability of adolescents’ perspectives of wellbeing across countries and observe changes over time. Another fruitful prospect is to study the extent to which adolescents’ prototype of wellbeing match with an individual’s representation of wellbeing to examine the extent to which interventions need to be modified to suit individual’s requirements.

**Conclusion**

The study contributes to an underinvestigated area of positive psychology and carries significant implications for schools regarding adolescents understanding of wellbeing. The evidence suggests that adolescents’ wellbeing perceptions are only partially aligned with conceptual and promotional wellbeing models. Therefore, a broader definition of wellbeing is required tailored to the adolescents’ prototypical wellbeing representation. It is also imperative that school practitioners, policy makers and researchers consider adolescents’ views regarding wellbeing in planning, designing and implementing school wellbeing programs especially accommodating perspectives exclusive to the socioeconomic decile groups.

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# Appendices

## Appendix A: Wellbeing components generated in Study 1, sorted by Study 2 centrality ratings

Table 2

Wellbeing components generated in Study 1, sorted by Study 2 centrality ratings

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | Study 1 |  | Study 2 |  |  |
| Component | Frequency | % Participants | Centrality  rating | SD (s) |  |
| Being happy | 130 | 72.8 | 9.03 | 1.51 |  |
| Enjoyment/having fun | 19 | 12.8 | 8.80 | 1.53 |  |
| Feeling good | 22 | 17.6 | 8.65 | 1.48 |  |
| Feeling safe | 20 | 12 | 8.63 | 1.76 |  |
| Good mental health | 14 | 10.4 | 8.47 | 1.73 |  |
| Being kind/helpful | 54 | 35.2 | 8.36 | 1.89 |  |
| Belief in your abilities | 7 | 5.6 | 8.25 | 1.74 |  |
| Being respectful | 19 | 13.6 | 8.23 | 1.93 |  |
| Being respected/encouraged | 9 | 6.4 | 8.21 | 1.72 |  |
| Positive attitude/optimism | 11 | 8 | 8.17 | 1.79 |  |
| Self-confidence | 7 | 5.6 | 8.12 | 1.94 |  |
| Good values | 5 | 3.2 | 8.07 | 2.04 |  |
| Being grateful | 4 | 3.2 | 8.02 | 2.06 |  |
| Good relationships | 26 | 12.8 | 7.95 | 2.29 |  |
| Excitement | 18 | 14.4 | 7.95 | 1.96 |  |
| Good physical health | 50 | 33.6 | 7.80 | 2.37 |  |
| Good temperament/behavior | 21 | 15.2 | 7.77 | 2.00 |  |
| Success/achievements | 7 | 5.6 | 7.75 | 2.27 |  |
| Feeling calm and relaxed | 9 | 6.4 | 7.74 | 1.90 |  |
| Contentment/peace | 4 | 3.2 | 7.70 | 1.92 |  |
| Sense of satisfaction | 9 | 6.4 | 7.15 | 2.08 |  |
| Energetic | 15 | 12 | 7.12 | 2.46 |  |
| Being focused | 3 | 2.4 | 6.75 | 2.33 |  |
| Being expressive | 6 | 4.8 | 6.57 | 2.34 |  |
| Comfort/being wealthy | 8 | 5.6 | 6.11 | 2.99 |  |
| Absence of sadness | 8 | 5.6 | 5.58 | 2.98 |  |

## Appendix B: Component listing percentage in Study 1 by school decile

Table 3

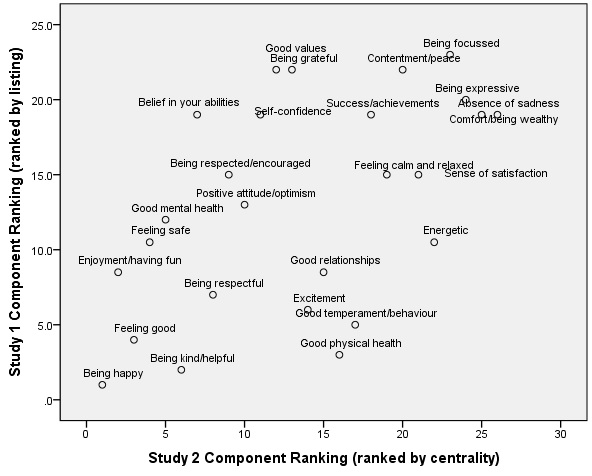
Participant component listing percentage in high and low decile schools

|  |  |  |
| --- | --- | --- |
| Component | % participants in low decile school | % participants in high decile school |

|  |  |  |
| --- | --- | --- |
| Being happy | 70.83 | 74.02 |
| Being kind/helpful | 56.25 | 22.08 |
| Being respectful | 27.08 | 5.19 |
| Good physical health | 22.92 | 40.26 |
| Enjoyment/having fun | 20.83 | 7.79 |
| Good temperament/behavior | 16.67 | 14.28 |
| Feeling good | 14.58 | 19.48 |
| Good relationships | 12.5 | 12.99 |
| Excitement | 12.5 | 15.58 |
| Feeling safe | 10.42 | 12.99 |
| Energetic | 10.42 | 12.99 |
| Good mental health | 8.33 | 11.69 |
| Being respected/encouraged | 6.25 | 6.49 |
| Feeling calm and relaxed | 6.25 | 6.49 |
| Belief in your abilities | 4.12 | 6.49 |
| Success/achievements | 4.12 | 6.49 |
| Being expressive | 4.12 | 5.19 |
| Positive attitude/optimism | 2.08 | 11.69 |
| Self-confidence | 2.08 | 7.79 |
| Good values | 2.08 | 3.896 |
| Being grateful | 2.08 | 3.896 |
| Sense of satisfaction | 2.08 | 9.09 |
| Comfort/being wealthy | 2.08 | 7.79 |
| Contentment/peace | 0 | 5.19 |
| Being focused | 0 | 3.896 |
| Absence of sadness | 0 | 9.09 |

## Appendix C: Correlation between each component’s ranking in Study 1 and Study 2

Figure 1. Components’ ranking correlation between Study 1 and Study 2

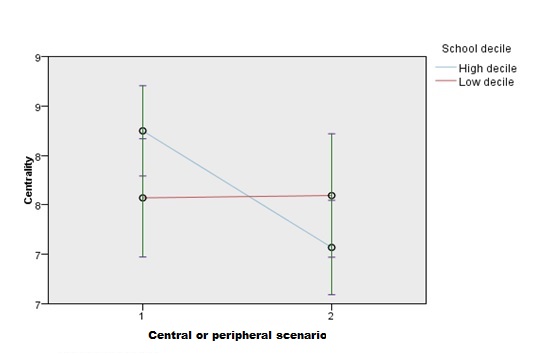


## Appendix D: Bar graph depicting low and high decile groups’ significantly different centrality ratings in Study 2

Figure 2. Low decile and high decile groups' different centrality ratings of five components

## Appendix E: School decile interaction with scenario selection in Study 3

Figure 3. School decile interaction with scenario selection



## Appendix F: Pathways to Wellbeing

Table 4

Pathways to wellbeing

|  |  |  |
| --- | --- | --- |
| **Component** | **Occurrence (*n*)** | **% participants** |
| *Positive family relationships* | 75 | 60 |
| *Positive friendships* | 69 | 55.2 |
| *Physical activity/sport* | 42 | 33.6 |
| *Hobbies/doing things that interest you* | 38 | 29.6 |
| *Nature* | 21 | 16.8 |
| Entertainment | 20 | 16 |
| *Being kind/helpful* | 20 | 13.6 |
| *Pet ownership and attachment* | 17 | 13.6 |
| *Socializing* | 17 | 12.8 |
| *Around positive people* | 18 | 12.8 |
| *Eating healthily* | 15 | 12 |
| Achievement | 12 | 9.6 |
| School belongingness | 11 | 8.8 |
| Learning | 10 | 8 |
| Good physical health | 10 | 8 |
| Travel | 9 | 7.2 |
| Laughter/humor | 9 | 7.2 |
| Relaxation | 9 | 7.2 |
| Being happy | 9 | 7.2 |
| Perceived teacher support | 9 | 7.2 |
| Being encouraged | 8 | 6.4 |
| Having fun | 7 | 5.6 |
| Being at home | 6 | 4.8 |
| Being loved | 6 | 4.8 |
| Healthy environment | 5 | 4 |
| Technology | 7 | 4 |
| Feeling safe | 4 | 3.2 |
| Trying new things | 4 | 3.2 |
| Community | 5 | 3.2 |
| Work enjoyment | 4 | 3.2 |
| Presents/surprises | 5 | 3.2 |
| Religion | 4 | 3.2 |
| Group membership | 3 | 2.4 |
| Being respected/valued | 3 | 2.4 |
| Positive thinking | 3 | 2.4 |
| Appreciation | 3 | 2.4 |
| Perceived social support | 3 | 2.4 |
|  |  |  |