The effect of engagement in a kindness intervention on adolescents' well-being: A randomized controlled trial

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A current trend in kindness research is to assess the effect of being kind on participants' well-being. To do this, participants are asked to complete a series of kind acts and the corresponding impact on their well-being is measured. As participation in school-based interventions can vary, the aim of the current study was to assess the extent of adolescents' engagement in a kindness intervention and the resultant effect on their well-being. An intervention study was conducted in which 383 sixth through eighth graders planned and completed three kind acts per week for four weeks, with pre- and post-test assessments of well-being administered. Adolescents' acts of kindness reflected the themes of helping with chores, being respectful, complimenting/ encouraging others, and giving objects or money. No significant differences between control and intervention groups at post-test on any well-being measures were found, after controlling for pre-test scores. However, upon analysis of participants' engagement in the intervention (intervention uptake), it was determined that half of the participants (n=87) implemented less than 60% of their kindness intervention. Participants were thus clustered into three groups: zero, low, and high implementers. ANCOVAs revealed that high implementers had the lowest self-reported negative affect and highest self-reported kindness to others. Implications for adolescent prosocial development are discussed.

Keywords: kindness, adolescents, social and emotional learning, intervention uptake, prosocial behaviour

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Introduction

Two distinct trends are evident in kindness-themed research. First and most prevalent, researchers have examined the effects of being kind on various well-being outcomes in an effort to answer the question "Does being kind boost well-being?". Secondly, emerging research has explored the variety of ways in which participants are kind in an effort to answer the question "When asked to be kind, how are people kind?" In the study presented here, student well-being was operationalized by student self-report measures of happiness, satisfaction with life, positive and negative affect, and subjective psychological well-being.

Certainly, the first question has garnered more empirical attention from researchers who have focussed on measuring the effect of being kind on participants' well-being (Layous, Nelson, Oberle, Schonert-Reichl, & Lyubomirsky, 2012; Mongrain, Barnes, Barnhart, & Zalan, 2018; Otake, Shimai, Tanaka-Matsumi, Otsui, & Fredrickson, 2006; Pressman, Kraft, & Cross, 2015). This includes researchers examining the 'dosage' - how many kind acts must individuals do to reap benefits? (Kerr, O'Donovan, & Pepping, 2014), the 'scheduling or timing' of kind acts (Lyubomirsky, Sheldon, & Schkade, 2005), and whether doing the 'same or varied' kind acts is important (Sheldon, Boehm, & Lyubomirsky, 2012).

A recent meta-analysis by Rowland and colleagues (2018) identified a small-to-medium effect size (i.e., $d = 0.28$) of kindness on well-being. This is in alignment with findings in the broader context of well-being interventions where effect sizes for positive psychology interventions range from .20-.34 (Boiler, Haverman, Westerhof, Riper, Smit, & Bohlmeijer, 2013). Although it has been established that having participants be kind yields benefits for well-being, including the encouragement of social bonds, the building of interpersonal trust and acceptance, and the development of personal skills (Kerr, O'Donovan, & Pepping, 2014), little is known about participant engagement or 'dose intervention uptake' with respect to kindness intervention studies and how the extent to which participants engage in the intervention (i.e., the completion of required kind acts) impacts their well-being. This is an important aspect of applied research to investigate for three reasons. First, understanding just how engaged participants are in an intervention (i.e., how much exposure to the intervention participants received) allows researchers to determine the dose that is required to necessitate change. This helps answer questions such as "What is the minimum exposure to, or engagement in, the intervention required to effect change?" and "Does greater engagement lead to greater benefits?" Second, investigating dose intervention uptake in applied research is an important aspect of research accountability and helps researchers design studies in ways that allow them to determine just how much of an intervention was taken up by participants. This challenges assumptions that merely delivering the intervention or conducting an intervention study results in equal exposure to the independent variable by participants. And third, reporting the intervention uptake in intervention studies, especially in applied research, might help explain nonsignificant findings. That is, if the results indicate that the intervention was ineffective, might this reflect low-level participant engagement? Could parsing participant engagement into low, medium, and high implementors help determine if dose intervention uptake impacts outcomes? Next, we examine factors impacting dose uptake in applied, school-situated research.

Increasingly there have been calls to report how studies are implemented and how interventions are received once introduced to participants, especially in complex settings such as schools (Domitrovich et al., 2015; Durlak, 2016; Greenberg, Domitrovich, Graczyk, & Zins, 2005; Wanless & Domitrovich, 2015). Certainly, within an applied setting like a school, there are a number of factors that influence how an intervention is delivered to participants and it goes without saying that not all interventions are implemented equally. In their examination of factors impacting a school's likelihood of success in implementing an SEL intervention, Wanless and Domitrovich (2015, p. 1041) ask: "Does this teacher, and this school, have the capacity to take on this intervention?" These authors posit that the success of a school-based intervention is impacted by several factors that include individual (e.g., teacher knowledge level), classroom (e.g., daily schedule, composition of class), and building-level (e.g., school climate, school leadership) considerations. An additional consideration in applied research is student attendance, especially for intervention research where students are asked to participate in research activities spanning several weeks.

Considerations in Applied Research

Program Reach. As a starting point, an intervention's '*program reach',* or participation rate by all members of the eligible population, should be reported. Within a school context, the program reach reflects factors such as the researcher's recruitment strategies, buy-in from adult stakeholders disseminating information to students, parent education or information efforts regarding the study that might impact the signing of consent forms allowing participation, the use of incentives to bolster participation rates, and the study's fit with the overall mission or mandate of the school (Durlak, 2016).

Participant Engagement. Related to a study's program reach is the extent to which participants actively engage in the intervention, once administered (Durlak, 2016). Participant responsiveness or engagement or uptake, is, in turn, influenced by teacher buy-in (Hanson-Peterson, Schonert-Reichl, & Smith, 2016; Reyes, Brackett, Rivers, Elbertson, & Salovey, 2012), by overlap with existing programs already in place or that have recently been delivered within the school (Durlak, 2016), and by student composition and the climate of the school (Payne, Gottfredson, & Gottfredson, 2006), among other considerations.

Implementation Fidelity. Last, researchers must consider implementation fidelity (also referred to as the integrity of a study) – the extent to which the intervention was delivered as it was intended to be administered to participants (Carroll et al., 2007). Factors to consider here might include: teacher training prior to administering the intervention; student attendance throughout the study; unanticipated interruptions (e.g., fire drills, school closures due to weather, etc.); and time of year (e.g., teachers asked to perform research-related tasks when students' grades are due). As Durlak (2016, p. 336) notes: ". . . we cannot interpret any programme findings accurately without knowing what level of implementation was achieved."

Taking the above factors into consideration, our research builds upon prior research and extends current understanding by examining how the extent of adolescents' engagement in planning and delivering a series of kind acts impacts their well-being. It was first hypothesized that participants who more fully engaged in, and completed more of their assigned kind acts, would experience the greatest boost to their

well-being. Second, it was hypothesized that the themes in adolescents' kind acts would be in accord with the themes found in previous kindness research and include the global themes of helping, sharing, and cooperating.

Method

This study was comprised of an intervention in which 6th through 8th graders were asked to plan and complete kind acts to determine how engaged students would be in kindness intervention research and to assess the effect of being kind on their well-being. School district and university research ethics approval was granted for these studies. The purpose of this study was to evaluate the dose intervention uptake by participants who were asked to complete a series of kind acts as a means of assessing the effect of engagement on well-being. As a corollary to the intervention administered here and as a means of understanding how adolescents demonstrate kindness, participants' kind acts were coded to identify the prevalent themes in their kind acts.

Procedure

Participant recruitment. From a pool of three middle schools in a mid-size school district in a small western Canadian city, one middle school was randomly selected to participate in this study. The study was described to teachers by the lead author at a faculty meeting. All 16 homeroom teachers agreed to participate and signed informed consent forms. Teachers then sent parental/guardian permission slips home and only four of 414 students did not receive parental permission to participate, resulting in a 99% participation rate. Average daily attendance within the school, as calculated by the number of absent students, was 92% during the time in which this research was conducted. Before completing pre-test measures, students signed assent forms indicating their willingness to participate in the study. The pre-test survey was administered during one 45-minute session to participants in clusters of three classes by the author and three trained research assistants. Participants were assigned an anonymized identification number and their name was not associated with their surveys. All participants were assessed on the same day and to encourage participants to answer honestly, teachers were not present during the completion of surveys. A standardized script informing participants of directions was followed and questions were read aloud to participants. As all classes in the school participated in the study, participants were randomized at the classroom level to treatment or control conditions after the administration of the pre-test survey.

Treatment condition. Participants (n = 193) in the treatment condition received a booklet containing weekly *Planning* (i.e., "Plan three kind acts to be done this week. Indicate who each kind act is for and when, during this week, you will complete it.") and *Reflection* sheets asking participants to document the number of kind acts they completed each week and to identify if the recipient of each kind act was known or unknown. In accord with previous research investigating kindness in adolescents (e.g., Layous et al., 2012), the treatment condition required participants to plan, and complete, three kind acts per week for four weeks.

Control condition. Following protocols used by other kindness researchers (i.e., Layous et al., 2012),

participants in the control condition ($n = 190$) planned 3 locations to visit each week and, to mirror tasks assigned to the treatment condition, were asked to indicate when, during the week, they would visit each location. Classroom teachers oversaw the completion of the weekly planning and reflection sheets for both treatment and control participants. After four consecutive weeks of planning and reflecting, participants were administered the post-test survey (by the same research team, in the same location, in the same classroom clusters, and under the same conditions as they were administered for the pre-test survey).

Participants. Participants in the intervention study included 383 middle school students (*M*age = 12.8, *SD* = .97, 50% girls) in Grades 6 ($n = 124$), 7 ($n = 117$), and 8 ($n = 143$). Participants were predominantly Caucasian (69%), Aboriginal (11%), and of mixed-race ethnicity (9%). The majority (98%) reported speaking English at home.

Measures

Demographic information. Participants were asked to provide demographic information (grade, age, gender, ethnicity, language spoken at home).

Weekly kindness planning and reflection sheets. Participants were asked to complete *Kindness Planning* and *Reflection* sheets as a means of having them plan and do a series of kind acts and then provide insights into having enacted kindness.

Kindness planning sheets. Each participant in the treatment condition received a booklet containing a series of planning sheets to help them plan, organize, and describe the three kind acts they were asked to complete each week (note: control condition participants received a similar booklet tailored to planning and describing places to visit). Participants were required to indicate the recipient of each their kind acts (e.g., friend, classmate, neighbor).

Kindness reflection sheets. At the end of each week, participants were asked to complete *Kindness Reflection Sheets* which required participants to indicate the number of kind acts they completed.

Student self-reports of kindness. At pre-test and post-test, participants were asked to provide self-ratings of their face-to-face and online kindness. Specifically, using a 5-point, Likert-type scale ranging from 1 (*not very kind)* to 5 (*very kind*), participants responded to the prompts: "Using the scale below, indicate how kind you are currently in your face-to-face interactions" and "Using the scale below, indicate how kind you are currently when online (e.g., using social media)." In addition, students responded to the question "In the last month, how kind have people been to you at this school?" using the same 5-point, Likert-type scale ranging from 1 (*not very kind)* to 5 (*very kind*).

Student well-being. In this study, recall that student well-being was operationalized by student self-report measures of happiness, satisfaction with life, positive and negative affect, and subjective psychological well-being. In addition, there is substantial evidence in the literature on the importance of social connectedness for students' well-being, particularly during early adolescence (Hamre & Pianta, 2010; Jose, Ryan, & Pryor, 2012; Oberle, Schonert-Reichl, Guhn, Zumbo & Hertzman, 2014), therefore we also included an item that assessed students' current feelings of connectedness with others.

Children's Happiness Scale. The Children's Happiness Scale (Holder & Klassen, 2010) is comprised of four items that assess participants' subjective happiness at a global level (i.e., "In general, I consider myself . . ." ''Compared to most of my peers, I consider myself . . ." etc.). Participants rate each item on a scale ranging from 1 (*less happy*) to 7 *(more happy)*. Evidence for reliability and validity of this measure has been reported for both adults (Cronbach's alpha ranged from .79 to .94; Lyubomirsky & Lepper, 1999) and children aged 9 to 12 (Holder & Klassen, 2010). In the present study, internal consistency for this measure was found to be satisfactory (Cronbach's alpha = .80-.84).

Satisfaction with Life Scale – Child. (Gadermann, Schonert-Reichl, & Zubmo, 2010). This measure consists of five items that assess the degree to which participants feel satisfied with their life (e.g., ''In most ways my life is close to the way I want it to be,'' ''So far, I have gotten the important things I want in life.).'' A 5-point Likert-type scale ranging from 1 (*disagree a lot*) to 5 (a*gree a lot*) is used. In the present study, internal consistency for this measure was found to be satisfactory (Cronbach's alpha = .86-.90).

Positive and Negative Affect Scale. (Laurent et al., 1999). The child version of the Positive and Negative Affect Schedule (PANAS; child version: Laurent et al., 1999) is an instrument comprised of 30 items requiring participants to rate emotions (e.g., "Joyful", "Lonely") on a 5-point Likert-type scale ranging from 1 (*very lightly* or *not at all*) to 5 (*extremely*). In the present study, internal consistency for this measure was found to be satisfactory (Cronbach's alpha = .89-.92).

Psychological Well-Being scale. The Psychological Well-being scale (PWB; Diener, et al., 2009) assesses students' subjective feelings of well-being via eight items (e.g., "I lead a purposeful and meaningful life") rated on 7-point Likert-type scales with ranging from 1 (*strongly disagree*) to 7 (*strongly agree*). Scores are summed across all items to yield a total score. In the present study, internal consistency for this measure was found to be satisfactory (Cronbach's alpha = .90-.91).

Social Connectedness Scale. To assess students' feelings of social connectedness (Kerr, O'Donovan, & Pepping, 2014), they responded to the item "Please rate how connected you have felt with others over the past week" using a 5-point scale ranging from -3 (*isolated*) to 3 (*well-connected*). Responses were recoded into a Likert-type scale ranging from 1 (*isolated*) to 7 (*well-connected*) for ease of comparison with other scales.

Results

Completion of Kind Acts

Recall that participants in the treatment condition were asked to plan, and then do, three kind acts each week for four weeks and, at the end of each week, indicate how many of their kind acts they completed. A total of 2,001 kind acts were done by participants, and on average, participants completed 7.45 ($SD = 2.84$) of the total possible 12 kind acts that could be done over the course of the study. Significant differences were found in the completion rate of kind acts between week 2 ($M = 2.06$, $SD = .79$) and week 4 ($M = 2.34$, $SD =.71$), $t(135) = 4.15$, $p = .000$, and week 3 ($M = 2.15$, $SD = .85$) and week 4 ($M = 2.34$, $SD = .71$), $t(135) = 2.46$, $p = .015$), but not by grade level ($p = .38$) or gender ($p = .53$).

Themes within Kind Acts

A coding template developed for a parallel study on adolescent kindness by Binfet (in press) was used to identify the prevalent theme of each kind act done by participants. To develop this coding matrix, global or general themes within adolescents' kind acts were identified using qualitative content analysis (Hsieh & Shannon, 2005) with these global themes subsequently winnowed to reduce repetition and redundancy (see Table I). Using this matrix, participants' completed kind acts were coded by a trained graduate research assistant. A second trained graduate research assistant independently coded 20% of participants' kind acts to determine interrater agreement which was high (i.e., 92%). Discrepancies between raters were reconciled through discussion. Across kind acts, the following prevalent themes were found: *Helping* (39.5%; "I saw a teacher's arms were full so I offered to hold the projector"), *Giving* (23%; "We were writing a quiz and I gave a pencil to a classmate"), and *Being Respectful* (13.9%; "Even if I'm in a bad mood, I say hi to the secretary").

Gender Differences in Kind Acts

To examine if boys and girls differed in the themes of the kind acts they planned and completed, a series of ANOVAs were performed. Girls reported doing significantly more 'complimenting' than boys and *other* gender, $F (2, 190) = 3.70$, $p = .027$. *Other* gender reported significantly more 'giving objects or money' than boys and girls, $F (2, 190) = 3.62$, $p = .029$) and girls and *other gender* reported significantly more 'emotional helping' than boys, $F (2, 190) = 4.67$, $p = .011$).

Recipients of Kindness

For each of their kind acts, participants were asked to identify the recipient. Across participants and across all acts, 61% of participants enacted kindness to familiar or individuals known to them (versus strangers). Across participants and across all acts of kindness, the most frequent recipients were: Family (28 %), Friends (17%), and a Stranger (13 %).

Analyses of Covariance (ANCOVA) of Outcome Variables

After running a series of ANCOVAs, the analyses revealed no significant differences between control and treatment groups on any student outcome measure (e.g., self-rated kindness, well-being) (see Table II for summary of analyses). Recent research on implementation, however, has indicated that 60% implementation is needed to see benefits (Durlak & DuPre, 2008). After examining the number of kind acts (i.e., the dose intervention uptake) completed by students, it was discovered that only half of the treatment group students completed more than 60% of their intended kind acts. Therefore, we clustered students into three new groups: zero implementers (i.e., control group or participants in the treatment group that did not do their kind acts), low implementers (1-59%), and high implementers (60%+). A new series of ANCOVAs were conducted, that controlled for gender, grade, and pre-test scores, with the three implementation clusters as fixed factors.

Table I. Coding manual for themes of kindness

Theme	Description / Examples
1. Helping	Unspecified helping with no explanation
1.1 Helping physical	Helping someone to the office who is injured, opening the door for someone on crutches, picking up something that fell on the floor for someone else, helping where there is a physical need
1.2 Helping emotional	Supporting someone who is sad, giving someone advice for their problems, calling one's grandparent who is lonely, defending/standing up for someone, helping where there is an emotional need
1.3 Helping instructional	Helping someone with homework, teaching someone a song on the guitar, helping someone with their basketball skills, helping through teaching in general, helping someone concentrate/stay on-task
1.4 Helping with chores	Doing household chores, doing dishes, setting the table, going grocery shopping, carrying in groceries, making dinner for family, giving dog a bath
2. Giving	Unspecified giving with no explanation
2.1 Giving objects or money	Donating to a charity, tipping one's server, buying a friend food, giving someone one's lunch, giving a gift, sharing
2.2 Giving time	Volunteering one's time, babysitting for one's neighbor, spending time with a friend, fundraising for a charity, helping local animal shelter/agency, shoveling snow for a neighbour
3. Being friendly	Saying good morning, inviting someone to a movie, smiling at people, having a positive attitude
4. Being respectful	Cooperating, listening, being polite, getting along with one's siblings, not calling names, not teasing, keeping the peace, not be so loud, not being greedy
5. Taking initiative	Doing something for someone without being asked to, offering to help
6. Encouraging, Complimenting or Advocating	Giving a compliment, encouraging a friend
7. Self-directed kindness	Recipient is the student him or herself, exercising, eating healthy, doing something kind for oneself, work harder at school
8. Protecting the environment	Picking up garbage off the street, planting a tree, cleaning up the school grounds
9. Unspecified/generic kindness	Unspecified kindness with no explanation, being kind, being nice
10. Other/miscellaneous	Themes not fitting into any other category

Self-ratings of kindness. Recall that participants were asked before and after planning and completing their weekly series of kind acts to rate both their face-to-face and online kindness using a Likert-type rating scale that ranged from 1(*not at all kind*) to 5 (*very kind*). The ANCOVA indicated a significant difference between cluster groups on self-reported face-to-face kindness, F (2, 377) = 3.57, p = .029, with high implementers reporting the highest (M = 4.34, SD =.73). Interestingly, low implementers (M = 3.94, SD = .85) fared significantly worse than the zero implementers (M = 4.23, SD = .74) and high implementers (see Table III). These unanticipated results are interesting and perhaps reveal a low-level of engagement of students who became low implementers. No significant differences between groups were found for students' reports of online kindness (p = .12) (see Table III).

A similar trend, however, was found for students' reports of kindness *received from others* in their school, with high implementers (M = 3.52, SD = .89) reporting receiving significantly more kindness than low implementers (M = 3.03, SD = 1.29), F(2, 373) = 3.78, p = .02. In this case, however, zero implementers reported the highest level of kindness from others (M = 3.58, SD =1.04), significantly more than the low implementers (p = .01) but not the high implementers (see Table III). These results possibly reveal an increased ability to discern kind acts or a more specific definition of kindness (and therefore more modest ratings at post-test) for students who participated in the intervention. Implications will be discussed below.

Impact of kind acts on well-being. A series of ANCOVAs were conducted to determine the effect of students' completion of kind acts on their well-being (i.e., positive and negative affect, happiness, subjective well-being, social connectedness) and revealed a significant difference between groups on negative affect at post-test, F(2, 376) = 3.74, p = .025. Pairwise comparisons indicated that high implementers (M = 1.89, SD = .72) reported significantly less negative affect at post-test than low implementers (M = 2.33; SD = .95; p = .01) and lower negative affect than zero-implementers, though non-significant (M =1.96; SD =. 79; p = .26). Similar to the findings on kindness, zero-implementers fared significantly (p =.05) better than the low-implementers on negative affect at post-test.

Results were non-significant for positive affect, satisfaction with life, subjective happiness, and psychological well-being, however, the trends consistently resembled those of negative affect with high implementers showing the most positive results, followed by zero-implementers, then low-implementers (see Table III for summary of results).

To assess students' social connectedness, we asked students to rate how connected they felt with others over the past week. A series of ANCOVAs revealed there was no significant differences between the three levels of implementation (zero [M = 5.63, SD = 1.67], low [M = 5.13, SD = 1.80], high [M =5.51, SD =1.70]) on post-test social connectedness, after controlling for gender, grade, and pre-test social connectedness, F(2, 361) =.17, p =.85 (see Table III).

Table II. ANOVA Results for Post-test Comparisons of Outcome Measures by Study Condition (Kindness Treatment or Control): Combined Sample Means (SDs) and F Values.

	Treatment (*n* = 193)		Control (*n* = 190)			
	Pre-test *M(SD)*	Post-test *M(SD)*	Pre-test *M(SD)*	Post-test *M(SD)*	*F* value	Effect size Cohen's *d*
Student Kindness						
Face-to-face	4.09(.88)	4.14(.82)	4.10(.77)	4.24(.72)	2.31_{ns}	0.12
Online	4.08(1.07)	3.89(1.35)	4.15(1.15)	4.14(1.11)	2.89_{ns}	0.19
From others	3.41(1.07)	3.32(1.10)	3.62(1.02)	3.57(1.06)	2.16_{ns}	0.23
Student Well-being						
Negative affect	2.13(.85)	2.12(.87)	1.96(.70)	1.93(.77)	$.98_{ns}$	0.22
Positive affect	3.42(.80)	3.44(.83)	3.50(.74)	3.55(.83)	$.35_{ns}$	0.13
Satisfaction with life	3.75(.96)	3.71(1.05)	3.92(.83)	3.87(.90)	$.05_{ns}$	0.15
Psychological well-being	5.45(1.14)	5.40(1.20)	5.55(1.08)	5.55(1.08)	$.74_{ns}$	0.13
Subjective happiness	4.86(1.33)	4.83(1.41)	5.04(1.15)	5.05(1.22)	$.60_{ns}$	0.16

Numbers in parentheses are standard deviations. Covariates are gender, grade, and pre-test variables.
*p<.05; ** p <.01.

Table III. ANOVA Results for Post-test Comparisons of Outcome Measures by Percent Implementation (Zero, Low, High): Combined Sample Means (SDs) and F Values

	Zero-implementers (0%) $n = 199$		Low-implementers (1-59%) $n = 86$		High-implementers (60%+) $n = 99$		
	Pre-test $M(SD)$	Post-test $M(SD)$	Pre-test $M(SD)$	Post-test $M(SD)$	Pre-test $M(SD)$	Post-test $M(SD)$	F value main effect
Student Kindness							
Face-to-face	4.09(.77)	4.23(.74)$_b$	3.94(1.01)	3.94(.85)$_a$	4.25(.73)	4.34(.73)$_b$	3.57*
Online	4.14(1.14)	4.13(1.11)$_a$	4.01(1.13)	3.76(1.23)$_a$	4.15(1.03)	4.00(1.46)$_a$	2.26$_{ns}$
From others	3.60(1.02)	3.58(1.04)$_b$	3.22 (1.02)	3.03(1.29)$_a$	3.58(1.01)	3.52(.88)$_b$	3.78*
Student Well-being							
Negative affect	1.97(.70)	1.96(.79)$_b$	2.27(.94)	2.33(.95)$_a$	1.99(.76)	1.89(.72)$_b$	3.74*
Positive affect	3.48(.76)	3.52(.83)$_a$	3.30(.85)	3.33(.84)$_a$	3.56(.72)	3.59(.79)$_a$	.14$_{ns}$
Satisfaction with life	3.89(.85)	3.84(.91)$_a$	3.61(1.05)	3.54(1.15)$_a$	3.94(.84)	3.91(.91)$_a$	.63$_{ns}$
Psychological well-being	5.50(1.11)	5.51(1.12)$_a$	5.17(1.23)	5.18(1.32)$_a$	5.79(.91)	5.69(.98)$_a$	.16$_{ns}$
Subjective happiness	5.00(1.17)	5.03(1.22)$_a$	4.51(1.40)	4.52(1.47)$_a$	5.24(1.15)	5.11(1.30)$_a$	.76$_{ns}$
Social connectedness	5.78(1.35)	5.64(1.67)$_a$	5.06(1.54)	5.13(1.80)$_a$	5.77(1.28)	5.51(1.69)$_a$	.82$_{ns}$

Numbers in parentheses are standard deviations. Covariates are gender, age, and pre-test variables.

Note: Subscript letters that differ in each row denote which cluster means are significantly different from one another ($p < .05$).

*$p < .05$; **p<.01.

Discussion

Recall that the aim of this study was to assess the effect of adolescents' engagement in a kindness intervention on well-being. The findings are discussed with respect to the two key questions guiding this research: 1) Does kindness boost well-being? and 2) How are adolescents kind?

Certainly, a key finding emerging from this research is that there was variability in the responsiveness or engagement of participants in the kindness intervention. Participants who more fully participated in the intervention (i.e., completed more of their assigned kind acts), appeared to reap the most well-being benefits. This was especially the case with regards to countering negative affect and adolescents boosting their view of themselves as kind when interacting with others. In contrast, participants who did not participate (i.e., completed very few or none of their required kind acts), fared better than those participants deemed low implementors (i.e., participants who completed some kind acts but perhaps with minimal effort). This finding holds methodological implications for the delivery of, and monitoring of, kindness interventions within schools but moreover it holds implications for student well-being. In order for adolescents to reduce their negative affect and to augment their perceptions of themselves as kind, they are better off giving it their all rather than half-heartedly attempting to complete their required kind acts.

In addition, the finding that low-implementers reported the highest levels of kindness from others, followed by the high-implementers, then low-implementers, raises interesting questions. For instance, these findings may indicate something about the saliency of kindness for those who participated in the kind-acts intervention. Specifically, might the intervention group may have become more critical of what constituted kindness after having gone through a kindness intervention themselves?

For those participants who completed kind acts, it was found that they tended to be kind to "known others" – individuals within their community with whom they were already familiar. Thus, when asked to be kind, it appears that adolescents perform kind acts to perhaps maintain or reinforce pre-existing relationships rather than forge new connections through their kind acts. This holds implications for students who may be socially withdrawn or isolated in a school as they may not be the on the receiving end of their peers' kindness and educators seeking to foster a kindness initiative within their school would be wise to ensure that the recipients of students' kind acts include both familiar and unfamiliar others.

Related to the above, another key finding arising from how engaged participants were in the completion of their kind acts, it appears that regardless of how engaged or committed students were in completing their required kind acts, this did not impact their social connectedness. That is, showing little kindness to others or a great deal of kindness to others did not influence how socially connected participants saw themselves.

The findings from this study also help answer the second question driving this research – *How, when asked to be kind, do adolescents demonstrate kindness?* There is continuity in the themes prevalent within adolescents' kind acts (e.g., helping, giving, and being respectful) found in this study and the themes identified in previous research on kindness in both adolescents and younger participants (Binfet, 2016,

Binfet, in press; Cotney & Banerjee, 2019). Predominantly, adolescents demonstrate kindness to others by helping. Being kind through helping others was done in differentiated ways – helping physically, emotionally, or by teaching someone. The next most common ways that adolescents enacted kindness was through giving to others and by being respectful. The identification of just how adolescents show kindness holds important ramifications for parents and educators interested in fostering kindness as they may discuss with students the variety of ways that kindness can be shown, model different ways of being kind for students, or ask students to show kindness in distinctly different ways.

Strengths and Limitations

There is a dearth of social and emotional programs and interventions targeted to adolescents (Williamson, Modecki, & Guerra, 2015) and this study served as a model of how to structure a school-based task that encouraged adolescents to participate in intentional prosocial behavior. This study also illustrated how, when adolescents were encouraged to be kind, they manifested kindness, providing opportunities for parents and educators to evaluate if the kindness enacted by adolescents meets expectations (e.g., Were students kind in anticipated ways?). Conversely, the findings here also provide an opportunity to identify areas for further growth. For example, as adolescents enact kindness to predominantly those with whom they have existing relationships (i.e., familiar others) how might educators encourage kindness to a broader recipient pool? The methodology employed in this study has strong ecological validity and could be incorporated into existing language arts, humanities, and social responsibility curricula within the contexts of regular classroom instruction, after-school programs, or service-learning initiatives.

As reflected by the variability in students' completion rates (i.e., how many of their kind acts were completed), this study draws attention to those students in a class who may struggle to plan and/or complete acts of kindness and who may require additional support in planning and executing kindness. Researchers and educators alike may make assumptions that, once assigned, tasks are completed. This study illustrated the variability in just how adolescents engage in kindness research and the need to support students in school-situated assignments that fall outside the realm of traditional academics (e.g., Math or Science themed assignments).

Last, having adolescents engage in intentional kindness helps build prosocial behavioural habits. Adolescence is a time when "There are windows of opportunity in the lifespan when specific brain regions and networks are particularly modifiable, and the introduction of certain forms of enrichment could produce salutary effects." (Saunders, 2015, p. 438). A key component of kindness is 'other regarding' (Post, 2005) and the encouragement of perspective-taking in adolescents is a worthy skill that safeguards healthy interpersonal relationships.

Despite best intentions, this study was not without limitations. First, as randomization for the intervention study was at the classroom level, there ran the risk that crossover or spillover effects (Bakker & Demerouti, 2013) influenced participants from treatment to control classrooms. That is, as participants in the treatment classrooms planned and completed kind acts, many of which were invariably done within their

school to fellow students, students in the control classrooms may have been recipients of these kind acts and experienced resultant boosts to their well-being. Second, with the surge in interest in SEL in schools, particularly in the province in which this research took place, this research was administered within schools where discussions of kindness and efforts to boost students' prosocial behavior, were likely commonplace. Thus, there risked being overlap in content for students between the regularly delivered curriculum and the content presented as part of our study. Third, as the study presented here relied on teachers to oversee the delivery of weekly planning and reflection sheets to students, determining weekly adherence to the study protocol for each week would enhance our ability to claim that the intervention was implemented with fidelity.

Related to this and noted by SEL researchers (e.g., Jennings & Greenberg, 2009), the classroom teachers' own social and emotional competencies likely influenced their ability to engage students and connect them to the intervention. Fourth, although the findings of the intervention study in which participant engagement was determined to reduce negative affect in participants, response-shift bias (Howard & Dailey, 1979; Moore-McBride, Chung, & Robertson, 2016) may also help explain the lack of an overall robust boost to participants' well-being. As Moore-McBride and colleagues (2106, p. 382) describe it could be that "…survey respondents rate themselves lower in the post-test because as a result of participating in an intervention, they learn their initial understanding of the question was flawed." To address this, the use of direct observations, as advocated by Yeager (2017) and others, could allow for changes in well-being to be identified. Last, the lack of uniform robust uptake by the adolescents in this study and the resultant lack of uniform boost to well-being may be explained by adolescents' social-emotional skills being less elastic than those of younger children (Yeager, 2017).

Conclusion

The findings of this study contribute to our understanding of kindness in adolescence and help answer the question posed at the outset of this paper – how does engagement in a kindness intervention impact well-being? Our findings suggest that the answer to this depends upon the extent to which participants engage in the tasks comprising the intervention. Our findings afford insights into the importance of participant engagement and implementation fidelity when studies are administered in busy school contexts. It appears that the well-being of adolescents can be enhanced via the completion of kind acts however optimal outcomes are only attained when high engagement is evident. As evidenced here, adolescents see themselves as kind in their face-to-face interactions, show kindness in varied and nuanced ways, and can experience boosts to their well-being when highly committed to completing their assigned acts of kindness.

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