Attitudes of psychology students toward expressive therapies

Viktoria Fay, Nora Fay and Peter Walla

Cogent Psychology (2016), 3: 1241459
Attitudes of psychology students toward expressive therapies

Viktoria Fay1, Nora Fay2 and Peter Walla1,3,4*

Abstract: There is little knowledge about the attitudes toward unconventional options among psychology students. The present study aimed to investigate different factors that may take part in influencing their attitudes toward expressive therapies. The study focused on gender and nationality differences, the relationship between attitude, knowledge, and behavior, and the effects of the personality trait openness to experience. An Internet-based survey with 156 American and 262 Hungarian students showed almost 80% positive attitude that was found to be related to perceived knowledge and willingness to engage in further training or future use of these therapies. Openness to experience strongly correlated with a more positive attitude. While culture did not influence the level of attitude, gender was a significant predictor in both nationality groups, with women being more positive toward expressive therapy. In the Hungarian sample, the number of years spent in education could be identified as a predictor for the level of knowledge.

Keywords: expressive therapies; attitude; knowledge; behavior; psychology students; openness to experience; nationality; gender

ABOUT THE AUTHORS
First author Viktoria Fay earned her MA in Psychology with an emphasis on counseling Psychology at the Webster Vienna Private University. She did her thesis work under Peter Walla's supervision and is now very actively further pursuing her academic career. Over time, they built up a solid academic relationship that finally led to this conjoint publication by additionally inviting Nora Fay, an active Neuropsychologist, to participate and contribute to the paper. Peter Walla is well recognized for his innovative emotion model (affective processing, emotion, and feeling; see Walla & Panksepp, 2013), his work on non-conscious affective and cognitive processing in the human brain, and also the multi-aspect theory of the human self (see Walla et al. 2007, 2008). He is trained in Biology, in particular Neurobiology and also Biological Psychology, and also offers Neuroconsulting services to the industry.

PUBLIC INTEREST STATEMENT
In spite of the fact that psychology students represent future professionals, there is very little knowledge about the attitudes toward unconventional options in the field of psychology. However, there is a general trend of increased use of alternative methods in Europe as well as in the United States. The aim of this study is to obtain a clearer picture concerning the attitudes of psychology students toward expressive therapies. This new field of research effectively expresses psychology students' openness and readiness to learn more about expressive therapies, which supports the various arguments for a proper educational program involving these types of therapies.
1. Introduction

Expressive therapies, also known as creative arts therapies, involve different approaches such as dance therapy, drama therapy, music therapy, psychodrama, art therapy, phototherapy, writing therapy, and poetry therapy. These approaches use art modalities and different creative methods in order to facilitate psychological change and healing (Thomson, 2003) and started to be used in the early 1900s (Malchiodi, 2005).

There are a growing number of health professionals who have acknowledged that expressive therapies have the capacity to enhance the healing process in patients in ways that exclusively verbal therapies have failed to do (Malchiodi, 2005). Moreover, the field of mental health has started to utilize creative methods more predominantly both in therapies and in medicine in general (Malchiodi, 2005). Creative therapies give clients the opportunity to become more active participants in their treatment process, thus enabling them to use their creative imagination in a productive way through art, music, play, and other methods (Gladding, 1992), thereby facilitating change and self-discovery (Malchiodi, 2005). White (2000) examined several ways in which alternative therapies could be effective in treating psychological disorders and offer an introduction about what psychologists should know about these unconventional treatments.

Defining complementary and alternative therapies (CAT) and complementary and alternative medicine (CAM) has some difficulties as the expressions CAM and CAT have been used as synonyms in the literature (Bassman & Uellendahl, 2003). Although “medicine” most likely relates to treating, relieving, and preventing diseases or symptoms, “therapy” most often refers to treatment alone (Kruszkowski, Malti, & Modestin, 2003). Different studies have adopted different definitions including and excluding several therapy forms (Wilson & White, 2007). In 1988, the establishment of the National Center for Complementary and Alternative Medicine (NCCAM) as a part of the National Institutes of Health was a major step forward in the field. NCCAM (2007) defined CAM as a “group of diverse medical and healthcare systems, practices and products that are not presently considered to be part of conventional medicine” (Caldwell & Winek, 2006, p. 102). In 1999, NCCAM defined alternative therapies as “those treatments and healthcare practices not taught widely in medical schools, not generally used in hospitals, and not usually reimbursed by medical insurance companies” (Tracy et al., 2003, p. 198).

According to the NCCAM classification (n.d.), CAM can be divided into several major domains of which mind–body interventions include approaches such as dance, music, and art therapy. Based on this classification, many of the expressive therapies are considered to be mind–body interventions because “they are both forms of psychotherapy and therapies that capitalize on the use of senses to effect change” (Malchiodi, 2005, p. 12).

Although remarkable research has been conducted exploring health professionals’ attitudes and knowledge toward CAM and CAT, there is a significant lack of similar studies within the field of psychology. Ditte, Schulz, Ernst, and Schmid-Ott (2011) investigated German medical and psychology students’ attitudes toward CAM and concluded that both groups would be hesitant to use or suggest CAM in their professional practice. A review of the literature on attitudes of medical professionals toward alternative treatments sheds some light on how psychology students might view expressive therapies.

There is evidence of a growing positive attitude over time (Pirotta, Cohen, Kotsirilos, & Farish, 2000), but the results of examined attitude and knowledge are somewhat mixed. Tracy et al. (2003) and Wilkinson and Simpson (2001) both used purpose-designed questionnaires and examined the attitudes, knowledge, and use of CAT of critical care nurses in the USA. The majority seemed open and eager to gain more knowledge and skills in the field and thought that CAT improves the quality of life.
The relationship between knowledge, attitude, and behavior toward CAM was studied extensively. Brown et al. (2007) surveyed nurses, physicians, and allied health professional in Canada and found that the majority of the respondents had rarely or never used CAM (80%), had very limited knowledge about alternative medicine (69%), and did not feel comfortable talking about CAM options with their patients (59%) because of their lack of knowledge. Baugniet, Boon, and Ostbye (2000) showed the importance of educational exposure of CAM. Langler et al. (2012) studied German health professionals and almost half of them (48%) had not been taught anything about CAM at medical school and more than half of them (56%) had never used alternative medicine. Younger doctors with shorter professional experience had a more positive approach toward CAM. Further supporting the influencing relationship of the three domains, Nowak and Dorman (2008) found in their study that knowing others who use CAM is a significant predictor of CAM use; therefore, attitudes toward CAM have relationships with cognitive and behavioral factors. Moreover, Brien (2004) found in a randomized controlled trial that students’ positive attitudes about CAM could predict their use of CAM. The knowledge–attitude–behavior (KAB) model can be applied to these findings, which proposes that knowledge affects attitudes, which leads to change in behavior (Baranowski, Cullen, Nicklas, Thompson, & Baranowski, 2003). The behavior factor in this study will be assessed by the willingness to engage in further education about expressive therapies and its use in future practice.

In terms of personality, Sirois and Gick (2002) examined several factors and found that users of CAM reported being more open to new experience compared to the conventional medicine users. Smith et al. (2008) found that the strongest predictors of CAM use are openness to experience, spirituality, and mood attention. Astin (1998) found that CAM users considered themselves more experimental and more as risk takers. The Big Five personality traits (Costa & McCrae, 1985) include five basic dimensions: extraversion, agreeableness, conscientiousness, neuroticism, and openness to experience. Individuals who score high on Openness to New Experiences are receptive and curious toward new ideas, approaches, and willingness to try new things. According to McCrae (1987), out of the five traits, only openness to experience is associated with divergent thinking, which means a thought process to generate creative ideas; therefore, the author suggests that creativity is linked to the personality domain of openness. Moreover, as creative therapies by definition use numerous creative skills, the current study hypothesized that openness to experience will relate positively to attitudes toward expressive therapies.

The effect of gender on knowledge and attitude toward CAT has been also assessed by a number of researches. A Norwegian study (Risberg et al., 2004) created a purpose-designed questionnaire and found that females (33%) showed a more positive view than males (14%). A number of studies detected this gender difference tendency, that female students were more likely to use CAM, while men tended to have a much more negative attitude (Ambrose & Samuels, 2004; Feldman & Laura, 2004; Wilkinson & Simpson, 2001).

There has been very limited research on the usage of alternative methods and attitude toward them among culturally different groups and there is no consensus. Frye, Sirpina, Boisabuin, and Bulik (2006) found that a minority of medical students were more likely to use CAM compared to the majority of students. An-Fu (2006) found that Asian Americans used more traditional Chinese medicine and Asians in general promoted CAM use more than others. On the other hand, Struthers and Nicholas (2004) reviewed 19 studies about CAM use among racial and ethnic groups, 7 of them showed no difference between ethnic groups and Caucasian populations. In a recent study on 144 college students' attitude, Ho found no significant difference between Americans and Asians. Kronenberg, Cushman, Wadé, Kalmuss, and Chao (2006) showed in a sample of 3,068 women that CAM use was relatively high in all racial groups (non-Hispanic whites, 42% African-Americans, 45% Mexican Americans, and 59% Chinese Americans). Nevertheless, there is a clear increase in the use and the demand of alternative therapies and medicine in Europe as well as in the United States (Ditte et al., 2011; Eisenberg et al., 1998). According to the NCCAM, approximately 40% of adults in the United States support CAM use. Based on the European Health Interview Survey (2009), in Hungary, 10% of the responders used thermal water therapy and 5% used homeotherapy, acupuncture, and
phytotherapy over the last year, although it is difficult to decide whether it is due to the lack of openness or the fact that these treatments are not reimbursed by medical insurance companies. However, it has to be mentioned that after the democratic transformation, alternative medicine and therapies started to spread explosively in Hungary (Bogár, 2003).

Bindler and Ball (2007) in their health care model pointed out the roles that the family plays in child development by communicating culturally based traditions and knowledge, thus establishing beliefs and norms related to health. The main goal is to promote health care among children and to acknowledge the influence of the family, community, and culture on health care decisions. Partly by this health care model and the fact there are controversial results in health care attitudes in terms of cultural differences, the current study explores whether there are overall differences in appreciation of expressive therapies between American and Hungarian psychology students.

The role of education has been widely studied with respect to attitudes toward alternative medicine and therapies. Berman, Singh, Hartnoll, Singh, and Reilly (1998) and Furnham and McGill (2003) indicated that the attitude of students and practitioners toward CAM negatively correlated with years spent in medical schools or the length of traditional practice. Pettersen and Olsen (2007) found that less scientific-rationalistic worldview predicted students’ positive attitude toward CAM. The authors suggested a strong emphasis on trainings about CAM in health science education. Trail-Mahan, Mao, and Bowel-Brinkley (2013) strongly argued that a proper educational program needs to be established for health professionals as a basis for future integration in their medical practice. The study of Çamurdan and Gül (2013) and Uzun and Tan (2004) both suggests a need that CAM should be integrated in the curriculum based on the attitudes of undergraduates in nursing and midwifery similarly to the findings of Halcón, Chlan, Kreitzer, and Leonard (2003). Based on these findings about the role of education, it is predicted that the levels of psychology training will be related to attitude toward alternative methods.

1.1. Scales for assessing attitudes, knowledge, and use
In the field of assessing attitudes, knowledge, or use, as it was mentioned above, numerous studies have created their own purpose-designed questionnaire. However, there are a few instruments with good reliability and internal validity. The Attitudes toward Alternative Medicine Scale (AAMS; Finnigan, 1991) was created as the first response to the lack of scales that could assess attitude and interest in CAM. It comprises 14 positive and negative statements about how CAM works, as well as associated beliefs and values about health. Many studies were carried out to support its validity and generalizability (Lewith, Hyland, & Gray, 2001; Lewith, Hyland, & Shaw, 2002). Several years later, Bishop, Yardley, and Lewith (2005) proposed a new approach to measure the beliefs toward CAM. CAM’s Belief Inventory was designed to assess a holistic view about health, natural treatment, and treatment participation. The subscales were found to be both reliable and valid. There are several new and older, better and less reliable short scales that were designed to measure attitudes toward CAM (HCAOM, Lewith et al., 2002; SACAM, Araz & Harlak, 2006). Although these scales have shown to have a good reliability and validity, they were specifically designed for use within medical care and not for the use in the field of mental health. Wilson and White (2007) realized this absence of scales that are applicable to the psychology profession. They conducted a small preliminary pilot study and constructed a newly derived scale. The first half of the survey consisted mainly of demographic information and previous CAT usage. The second half of the survey included items of the Psychologist Attitude Toward Alternative Therapies Questionnaire (Wilson & White, 2007); the initial version of this scale was based on two preexisting scales (Halcón et al., 2003; Lewith et al., 2002). The study designed and tested the scale to measure psychologist attitude toward CAT on a very small sample size of 163 psychology students.

Many of these scales assess the attitude and use toward different types of alternative methods and not a general overview of alternative therapies. Moreover, these scales rather focus on the alternative treatment options such as massage, acupuncture, aromatherapy, and homeopathy and not
involving expressive therapies. Because many of the published studies have used and still use purpose-driven questionnaires, in order to keep the survey succinct, design short questions—based on the published literature—seemed to be the best option for assessing psychologist attitude, knowledge, and future use of expressive therapies.

The aim of this study is to obtain a clearer picture concerning the attitudes of psychology students, in particular toward these therapies, because there are no significant studies concerning the attitude toward these therapies among psychology students in the undergraduate and graduate levels. Research in Europe, in Australia, the United States, and Canada has proposed that different demographic, personality, and health belief variables may be linked to the use of alternative therapies and medicine; however, the results of the studies have often been inconsistent. Attitudes toward alternative therapies and medicine showed a wide range of attitudes varying from disbelief to promotion and integration into practice and education. One of the main implications is that psychology education can be informed through this study with an improved understanding of the predicting factors of use of alternative therapies such as expressive therapies. Furthermore, it can assess whether there is a substantial need for integrating expressive therapies into the curriculum. In order to gain a clearer picture on the subject, we need to test different factors that may take part in influencing the attitude of students. They involve the role of gender, culture, the personality dimension, and education.

The following six hypotheses were tested:

1. Psychology students’ overall attitude toward expressive therapies is positive.
2. The variables of knowledge, attitude, and behavior toward expressive therapy correlate positively.
3. Openness correlates with a more positive attitude toward expressive therapies.
4. Females show a more positive attitude.
5. Nationality influences the attitude toward expressive therapies.
6. Years of education are related to attitude.

2. Method
The study used convenience sampling to recruit participants among psychology students from three American universities (Webster University, University of Oregon, and University of Seattle) and seven Hungarian universities (Karoli Gaspar University, Pazmany Peter Catholic University and Eotvos Lorand University, University of Pécs, and University of Szeged). Only two inclusion categories were established for participation: (1) all participants needed to be enrolled as a psychology student and had to be over 18 years of age; (2) all participants needed to have either Hungarian or American nationality. In the USA, 156 students (24 male and 132 female) and in Hungary 262 students (25 male and 237 female) completed the survey (418 in total). The average age of participants was 25. Table 1 represents demographics of the total sample.

The online surveys were sent to all accessible psychology students via Facebook groups as well as online communities at universities. Participation in the survey was anonymous and voluntary. In the first page of the survey, all participants needed to read and “sign” the consent form by clicking on the “Submit” button. They were informed about anonymity, confidentiality, and the fact that they could withdraw at any time by closing their browser. The Institutional Review Board’s approval number for the study, and contact information of the researcher and supervisor were also provided in the consent form. After the students had given their informed consent, they were asked to complete the survey, which took approximately 3–5 min. After completing the whole survey, the participation was thanked for.
2.1. Design
A correlational two-group study was conducted in which attitudes, knowledge, behavior, and openness to experience were measured in the sample. Firstly, the study utilized a correlational design to explore the relationship between knowledge, attitude, and behavior, and to examine the relationship between the personality variable of openness and attitudes toward expressive therapies. The study used a $2 \times 2$ ANOVA to examine the hypothesis of nationality influence (Factor 1) and gender differences (Factor 2) in attitude. Lastly, the study used a simple ANOVA design to examine the hypothesis that number of years in psychology training will be related to attitude toward expressive therapies.

2.2. Measures
Because many of the published studies have used and still use purpose-driven questionnaires, in order to keep the survey succinct, design short questions—based on relevant published literature (Risberg et al., 2004; Tracy et al., 2003)—seemed to be the best option for assessing psychologist attitude, knowledge, and future use of expressive therapies (see in Appendix 1). The four-part online, bilingual questionnaire’s final version was based on a pilot phase, where the questionnaire was evaluated in a group of 10 (5 international and 5 Hungarian) psychology students regarding comprehensibility and language clarity. A short definition of expressive therapy and a list of approaches were provided before the question relating to attitude. The questionnaire was divided into sections as described below.

2.2.1. Demographics
The first section collected socio-demographic information including age, gender, nationality, university, and years of education. The educational factor was assessed by the number of years of study completed.

2.2.2. Attitude and knowledge
This part asked questions about the participants’ attitude and knowledge related to creative art therapies. The question about attitude was answered on a visual analog scale by indicating a position along a continuous line from very positive to very negative. Respondents’ knowledge about expressive therapies was also rated on a visual analog scale, between the two end points, no knowledge and lots of knowledge.

Table 1. Descriptive statistics for demographic variables ($N = 418$)

| Demographics | American ($n = 156$) | Hungarian ($n = 262$) |
|--------------|----------------------|-----------------------|
| Age          |                      |                       |
| Min          | 19                   | 19                    |
| Max          | 59                   | 51                    |
| Mean         | 24.1 (SD = 6.68)     | 25.83 (SD = 7.05)     |
| Gender       |                      |                       |
| Male         | 24                   | 25                    |
| Female       | 132                  | 237                   |
| Year in School |                 |                       |
| 1            | 35                   | 79                    |
| 2            | 36                   | 57                    |
| 3            | 35                   | 58                    |
| 4            | 36                   | 39                    |
| 5            | 9                    | 29                    |
| 5+           | 5                    |                       |
| Mean         | 2.79 (SD = 1.44)     | 2.55 (SD = 1.35)      |
2.2.3. Behavior or willingness to engage
This part evaluated the respondents' willingness to engage in further education on expressive therapies and use of these therapies in their future practice. They were asked to mark their answers on a visual analog scale, involving definitely yes and definitely no indicator points, whether they are interested in additional training in the field, whether they would incorporate expressive therapies in their future practice, and whether or not they would choose to attend free workshops or classes as special topics about creative art therapies, if their schools offered them.

2.2.4. Personality dimension
The last section assessed the personality dimension using the openness to experience subscale of the 44-item self-reported Big Five Inventory (BFI) (John & Srivastava, 1999). The subscale consists of 10 short phrases and includes 6 different areas such as ideas (curious), fantasy (imaginative), aesthetics (artistic), actions (wide interests), feelings (excitable), and values (unconventional). In the Hungarian survey, the published Hungarian version of the 44-item Big Five Inventory was used (BFI-H; Nagy & SzirmákZs, 2007).

3. Results
Following the sequence of the hypotheses, first, the relationships between the three dependent variables of attitude, knowledge, and behavior were examined. Then, the four independent variables, openness to experience, gender, nationality, and years of education, were evaluated on the dependent variables.

3.1. Differences in variables of attitude, knowledge, and behavior
In Table 2, for descriptive purposes, means and standard deviations are shown. Psychology students' overall attitudes achieved 79.45 mean score on a scale where the minimum score 0 means very negative and the maximum score 100 indicates very positive. This indicates almost 80% positivity toward expressive therapies in the total sample. However, the mean score of their perceived knowledge was only 43.36.

3.2. Correlations between attitude, knowledge, behavior, and openness to experience
A correlation analysis (see Table 3) was conducted to determine the relationship between attitude, knowledge, and behavior. There were strong significant positive correlations between the three variables, indicating that more knowledge about expressive therapy was related to more positive attitude and higher level of willingness to engage in further education about expressive therapies and its use in future practice.

Table 2. Means and standard deviations of attitude, knowledge, and behavior scales (N = 418)

|                | Total sample | Hungarian | American |
|----------------|--------------|-----------|----------|
|                | M          | SD       | M       | SD       | M       | SD       |
| Attitude       | 79.45*     | 17.46    | 78.7*   | 17.46    | 80.71*  | 17.42    |
| Knowledge      | 43.36*     | 23.85    | 43.34*  | 22.40    | 43.37*  | 26.16    |
| Behavior       | 77.42*     | 22.53    | 81.43*  | 18.98    | 70.66*  | 26.18    |
| Training       | 72.39      | 26.81    | 73.99   | 25.72    | 69.69   | 28.43    |
| Use            | 78.14      | 24.16    | 83.63   | 18.40    | 68.91   | 28.27    |
| School class   | 81.84      | 25.01    | 86.68   | 20.98    | 73.38   | 29.44    |

*The mean value of the attitude scale, with minimum score of 0 (very negative) and maximum score of 100 (very positive).
*The mean value of the knowledge scale with a minimum score of 0 (no knowledge) and maximum score of 100 (lots of knowledge).
*Mean value of the three behavior scales with a minimum score of 0 (definitely no) and maximum score of 100 (definitely yes).
The third hypothesis stated that the personality trait openness to experience would correlate with a more positive attitude toward expressive therapies. The results revealed that the two variables were strongly correlated, \( r(416) = .383, p < .001 \). The scatter plot and the regression line are shown in Figure 1. (The regression line on the scatter plot graph is only for demonstration purposes, it is not part of a systematic regression analysis.) Not surprisingly, openness to experience showed significant correlations with knowledge \( (r(416) = .280, p < .001) \) and behavior variables \( (r(416) = .374, p < .001) \) as well.

### 3.3. Exploring gender and nationality differences

Firstly, it is important to keep in mind that the sample size was unbalanced in terms of larger female prevalence. Therefore, strong conclusion regarding the effect of gender could be only made if this unbalance were remarkably smaller. However, examining the variances of female and male subgroups, they revealed no significant difference in regard to all three dependent variables. Thus, the results still have statistical relevance (Vargha, 2007), and despite the small male sample size, the results still provide valuable information, especially for future studies.

Two-way ANOVA was used to examine the hypothesis of nationality influence and gender differences in attitude. The ANOVA utilized a \( 2 \times 2 \) design, with gender and nationality as the two independent variables with two levels each (male/female and Hungarian/American). The assumption of the homogeneity variance was accomplished; the result of the Levene test, \( F(3, 414) = 1.35, p = .257 \), indicated that equal variances assumption was met. The results revealed a statistically significant difference between men and women \( (F(1, 414) = 4.732, p = .030) \)—women being more positive toward expressive therapy—and no significant difference between American and Hungarian responses in regard to their level of attitude \( (F(1, 414) = .015, p = .903) \). There was no interaction effect found between gender and nationality, either \( (F(1, 414) = 1.035, p = .310) \).

To further explore any differences between gender and nationality, the same analysis was carried out in relation to knowledge, behavior, and openness to experience variables. The assumptions of equal variances were also met in all variables (knowledge: \( F(3, 414) = .2.261, p = .081 \); behavior: \( F(3, 414) = .3.335, p = .061 \)). Significant differences between men and women were found for knowledge \( (F(1, 414) = 9.289, p = .002) \) as well as behavior \( F(1, 414) = 5.641, p = .018 \). Furthermore, a

![Figure 1. Regression line and scatter plot graph: relationship between attitude and openness to experience.](image-url)
significant difference between the two nationalities was found for the behavior: $F(1, 414) = 14.025 p < .001$, with Hungarians being more willing to use techniques or do further training in the field. Because the assumption of normality failed, instead of the paired $t$-test, ANOVA analysis was applied again in order to examine the difference between nationalities among the three behavior questions. There was a significant difference in two of the three questions, that is Hungarians being more interested in school class of expressive therapies ($F(1, 244.53) = 25.477 p < .001$) and more willing to use expressive therapies in their future practice ($F(1, 414) = 14.025 p < .001$). The Levene test indicated unequal variances for the “school class” ($F(1, 242.75) = 33 p < .001$) and the “use” question $F(1, 416) = 28.53 p < .001$, so Welch robust test was applied.

An interaction effect between gender and nationality was not shown in any of the variables. Figure 2 visually depicts the means and standard deviations, and shows differences between gender and nationality in the level of attitude, knowledge, and behavior toward expressive therapies.

Openness to experience scores did not show any differences neither in gender nor in nationality ($F(1, 414) = .166 p = .684; F(1, 414) = .121 p = .728$).

### 3.4. Exploring influence of years of education

Based on the total sample, the years of education did not have a significant influence on the level of attitude. As the condition of test of homogeneity of variance was accomplished ($F(4, 413) = .698, p = .593$), one-way ANOVA was applied and it showed no significant difference ($F(4, 413) = .952, p = .434$). To further explore the sixth hypothesis, nationality difference and other variables were also examined. The only significant result was mean difference of the knowledge variable in relation to years of education, $F(4, 257) = 4.969, p < .001$, but only in the Hungarian sample (Levene Statistic: $F(4, 257) = .144, p = .966$). Figure 3 shows the visual depiction of changes in the level of perceived knowledge about expressive therapies and the years of education. As it can be clearly seen in Figure 3, the post hoc comparison using the Tukey HSD test revealed that the mean score for the first-year students ($M = 35.13, SD = 21.51$) was significantly different from that of the fourth- ($M = 47.71, SD = 22.07$) and fifth-year students ($M = 47.13, SD = 22.66$). Figure 3 demonstrates the means and the corresponding standard deviations. This increasing knowledge along the years was not found in the American sample.

At this stage, it might be interesting to mention that the history- and culture-related differences between the two countries are also associated with differences between the education systems. The democratic transformation in Hungary brought several changes in the education system. Hungarian education also changed to the European Credit Transfer and Accumulation System (ECTS); however,
the so called Bologna process is not yet entirely integrated in several European countries and it mostly works in theory. The major differences between the ECTS and US college credit system alone might lead to problems directly comparing years in psychology training in the two countries.

4. Discussion
As it was hypothesized, the overall attitude toward expressive therapies was found to be positive. Psychology students reported nearly 80% positivity toward expressive therapies, which reflects on several studies in the medical community (Çamurdan & Gül, 2013; Tracy et al., 2003; Uzun & Tan, 2004; Wilkinson & Simpson, 2001) as well as on the current social trend of an increased use of alternative methods in the general population (Pirotta et al., 2000). However, the survey identified the area of knowledge in which respondents reported a comparatively low rank, under 50%. This pattern of relatively high positivity, but lack of knowledge was found in a few previous studies (Brown et al., 2007; Langler et al., 2012; Tracy et al., 2003). On the other hand, this high level of openness contrasts the recent findings of a German study (Ditte et al., 2011) that psychology students view alternative therapies at least as skeptically as medical students. This can be explained by the strict scientific orientation of the German psychology curriculum. In conclusion, overall responses to the scale indicate that Hungarian and American psychology students in the sample are positive toward expressive therapies, which is parallel to the attitudes toward CAM or CAT of British, American, and Canadian medical students (Baugniet et al., 2000; Furnham & McGill 2003; Halcón et al., 2003). The finding that knowledge, attitude, and behavior significantly correlated is broadly consistent with previous studies (Brien, 2004; Nowak & Dorman, 2008) that investigated this relationship. These results are consistent with the KAB model. In parallel with the study of Brien (2004), the positive attitude of students could predict their willingness to use expressive therapies or engage in further training in the field.

The study also clearly supports the previous associations between creativity and alternative medicine use to openness to experience. As only a part of the CAM therapies has been assessed in this study, the current findings partially support the theory that alternative medicine users who have irregular personality traits may be more willing to utilize CAM treatments (Sirois & Gick, 2002). With this extension, the conclusion can be drawn that psychology students high in openness to experience are willing to explore other therapeutic options and the readiness to use and educate themselves in various forms of expressive therapies is consistent with this personality trait. In addition, the result that openness to experience scores did not show any differences neither in gender nor in nationality provides further support to the universality of the 44-item Big Five Inventory and supports the validity of the Hungarian translation.
As it was hypothesized, gender was a predictor for attitudes among psychology students in both groups. Women reported a higher level of willingness to engage in further education and use of these therapies, which supports previous findings of this gender difference trend (Ambrose & Samuels, 2004; Feldman & Laura, 2004; Risberg et al., 2004; Wilkinson & Simpson, 2001). An extension of the previous findings is the fact that women were found to have more self-reported knowledge about expressive therapies as well. The overall sample consisted of 49 males and 369 females; therefore, this result should be treated with caution. This gender imbalance probably represents the current distribution of psychology students.

Contrary to the hypothesis, there were no differences between American and Hungarian students’ attitude and knowledge toward expressive therapies, but there was a significant difference between their behavior toward these therapies, which can be rooted in the different histories of alternative therapies as well as in the different codes of psychology practices. The results indicated that Hungarian students were more interested in school classes and more willing to use elements from expressive therapies in their future. The biggest difference was found between the future utilization of creative art therapies, which could be explained by the strict rules of psychology practice in the United States. The significant results are analog with the Bindler–Ball health care model (2007) that strongly emphasizes the influence of culture and community in relation to health care choices.

The results did not support the hypothesis that the length of education is related to attitude toward expressive therapies, contrary to English medical students (Furnham & McGill, 2003). In addition, there was no difference found between the different universities neither in America nor in Hungary. This comparison may be limited because not all participants have yet engaged in any clinical training during their study. It could be interesting to compare attitudes toward expressive therapies among students in pre-clinical and clinical stages of education. Although the number of years spent in education was not a predictor for the level of attitude, it was for the level of knowledge, but only in the Hungarian sample. The growth of knowledge along the years of education supports the preliminary conclusion that education about creative art therapies is closely integrated in the Hungarian curriculum. Furthermore, this result could also reflect the difference between the American and Hungarian education systems. In America, the years of education was not shown a relevant variable as it was in the Hungarian sample regarding the level of self-reported knowledge, which could be explained by the less structured, more flexible credit system in the Unites States, which practically does not work in Hungary.

In addition, given the strong correlation between knowledge and attitude, conventional psychology education in Hungary could not be considered as a negative predictor as it was found for medical schools and conventional practices in an American and a British study (Berman et al., 1998; Furnham & McGill, 2003). This increased understanding of the role of education and the findings regarding lack of knowledge, but willingness to attend classes about these therapies could contribute to the development of an extensive psychology education system including trainings and classes about multiple types of therapies.

The main limitation of the study is the convenient sampling method involving its associated biases. There were a few limitations that were involved with using online surveys as well. Participation was anonymous and the participants came with a self-selection bias. It is possible that participants who completed the survey might be students who were more interested in expressive therapies or who were generally more open. The larger female prevalence in the study is due to the fact that more women respond to questionnaires than men, regardless of survey formats (Underwood, Kim, & Matier, 2000), and the fact that more female students are enrolled in psychology education. Although this gender gap objectively reflects the trend that more women study psychology, it is important to keep in mind that the result of this study more dominantly reflects the view of female psychology students. Furthermore, examining psychology students involves the bias of having less representative sample of male population, regardless of sample size.
Another limitation of the study is that all American students came from only three different universities; therefore, students’ attitude and backgrounds may not be representative of psychology students in other parts of the United States. The Hungarian sample respondents mainly came from universities in Budapest; therefore, it may not be applicable for students who do not study in the capital city.

Another possible limitation could be the way of measurement for collecting information about attitudes, knowledge, and behavior; however, the questionnaire was pilot tested regarding its clarity and understanding. The survey requested participants to indicate their level of attitude, knowledge, and willingness to engage in certain behaviors. The indicating points were similar to many surveys designed for assessing attitude, knowledge, and use of CAM or CAT. Furthermore, it should be noted that except for the openness to experience subscale, the survey was translated into Hungarian by the researcher, which could also limit the study.

To extend the results of the current study, additional studies are needed with qualitative interviews or more detailed questionnaires that could reveal more accurate results about what contributes to psychology students’ positive attitude toward expressive therapies. Future research could rely on the results of the current study by exploring psychology students’ responses from other nationalities with regard to personality traits, gender, and knowledge as being strong predictors of positive attitude. The study could also be extended to measure the attitude and the role of education using a pre- and post-test design after completing a school workshop or a class about expressive therapies. In addition, it could also be interesting to compare attitudes toward creative art therapies among students in pre-clinical and clinical stages of their psychology training. Given that recent literature about attitudes in general highlights discrepancies between explicit and implicit responses (e.g. Bosshard, Bourke, Kunaharan, Koller, & Walla, 2016; Koller & Walla, 2015; Walla, Brenner, & Koller, 2011; Walla & Koller, 2015; Walla, Koller, & Meier, 2014), it would be interesting to compare verbally stated attitude with brain responses or other implicit measures sensitive to raw affective processing levels in the brain (see Koller & Walla, 2012). Future research could also be conducted on assessing the influence of other personality traits, which could further define the mechanism of personality traits and linked attitudes and behaviors. This study will inform the fields of psychology service and education and provide improved understanding of the influencing factors of students’ attitude and use of expressive therapies.

5. Conclusion
Therapy providers have a growing need to consistently understand and integrate increased knowledge about patterns and influencing factors of attitude and use of unconventional therapies. This study examined several factors in this new field of research that can influence psychology students’ attitude, knowledge, and willingness to engage in certain behavior toward creative art therapies. In contrast to previous findings, the study revealed that even the conventional psychology education program could offer more knowledge about alternative therapies, which can influence students’ attitude and behavior toward these therapies. Considering the high level of positive attitudes and low level of knowledge as well as the high level of willingness to attend a class about expressive therapies in the psychology program, these findings all support the various arguments for a proper educational program involving these types of therapies. This could not only promote expressive therapies among psychology students, but could provide understanding of the practice method, associated risks, and advantages of the treatments. The increased knowledge could make psychologists more comfortable when discussing alternative options with patients as well as help them understand patients’ prior use of such therapies.
Funding
The authors received no direct funding for this research.

Author details
Viktoria Fay1
E-mail: viktoriafay21@gmail.com
Nora Fay2
E-mail: faynora70@gmail.com
Peter Walla1,3,4
E-mail: peter.walla@webster.ac.at
1 Department of Psychology, CanBeLab, Webster Vienna Private University, Palais Wenkheim, Praterstrasse 23, Vienna 1020, Austria.
2 Department of Cognitive & Neuropsychology, University of Scientiarum Szegediensis, Szeged, Hungary.
3 School of Psychology, University of Newcastle, Newcastle, NSW, Australia.
4 Faculty of Psychology, University of Vienna, Vienna, Austria.

Citation information
Cite this article as: Attitudes of psychology students toward expressive therapies, Viktoria Fay, Nora Fay & Peter Walla, Cogent Psychology (2016), 3: 1241459.

Cover image
Source: Viktoria Fay.

References
Ambrose, E. T., & Samuels, S. (2004). Perception and use of herbs among students and their practitioners in a university setting. Journal of the American Academy of Nurse Practitioners, 16, 166–173. http://dx.doi.org/10.1111/jpan.2004.16.issue-4
An-Fu, H. (2006). Complementary and alternative medicine use among Asian-American subgroups: Prevalence, predictors, and lack of relationship to acculturation and access to conventional health care. Journal of Alternative and Complementary Medicine, 10, 1003–1010.
Araz, A., & Horlak, H. (2006). Developing a scale for attitudes toward a complementary and alternative medicine. Turkish Journal of Public Health, 4, 47–54.
Astin, J. A. (1998). Why patients use alternative medicine. JAMA, 279, 1548–1553. http://dx.doi.org/10.1001/jama.1998.03590190015050
Baranowski, T., Cullen, K. W., Nicklas, T., Thompson, D., & Baranowski, J. (2003). Are current health behavioral change models helpful in guiding prevention of weight gain efforts? Obesity Research, 11, 235–435. http://dx.doi.org/10.1038/oby.2003.222
Bassman, L. E., & Uellendahl, D. (2003). Complementary/alternative medicine: Ethical, professional, and practical challenges for psychologists. Professional Psychology: Research and Practice, 34, 264–270. http://dx.doi.org/10.1037/0737-7028.34.3.264
Baugniet, J., Boon, H., & Ostbye, T. (2000). Complementary/alternative medicine: Comparing the views of medical students with students in other health professions. Family Medicine, 32, 178–184.
Berman, B. M., Singh, B. B., Hartnoll, S. M., Singh, B. K., & Reilly, D. (1998). Primary care physicians and complementary/alternative medicine: Training, attitudes, and practice patterns. The Journal of the American Board of Family Medicine, 11, 272–281. http://dx.doi.org/10.3122/jabfm.11.4.272
Bindler, R. C., & Ball, J. W. (2007). The bindler-ball healthcare model: A new paradigm for health promotion. Pediatric Nursing, 33, 121–126.
Bishop, F. L., Yardley, L., & Lewith, G. (2005). Developing a measure of treatment beliefs: The complementary and alternative medicine beliefs inventory. Complementary Therapies in Medicine, 13, 144–149. http://dx.doi.org/10.1016/j.ctim.2005.01.005
Bogár, D. (2003). Fókuszban az Alternative Gyógyászat [Focus on complementary and alternative medicine]. Medical Online. Retrieved from http://www.medicalonline.hu/cikk/fokuszan_az_alternatív_gyógyászat
Bosshard, S., Bourke, J., Kunoharan, S., Koller, M., & Walla, P. (2016). Established liked versus disliked brands: Brain activity, implicit associations and explicit responses. Cogent Psychology, 3, 1176691.
Brien, S. (2004). Attitudes about complementary and alternative medicine did not predict outcome in a homeopathic proving trial. The Journal of Alternative and Complementary Medicine, 10, 503–505. http://dx.doi.org/10.1089/1075553041323740
Brown, J., Cooper, E., Frankton, L., Steeves-Wall, M., Gillis-Ring, J., Barter, W., & Fernandez, C. (2007). Complementary and alternative therapies: Survey of knowledge and attitudes of health professionals at a tertiary pediatric/women’s care facility. Complementary Therapies in Clinical Practice, 13, 194–200. http://dx.doi.org/10.1016/j.ctcp.2007.03.003
Calderwood, K. L., & Winek, J. L. (2006). The relationship between marriage and family therapists and complementary and alternative medicine approaches: A national survey. Journal of Marital and Family Therapy, 32, 101–114. http://dx.doi.org/10.1111/jmft.2006.32.issue-1
Çamurdan, Ç., & Gül, A. (2013). Complementary and alternative medicine use among undergraduate nursing & midwifery students in Turkey. Nurse Education in Practice, 13, 350–354. http://dx.doi.org/10.1016/j.nepr.2012.09.015
Costa, P. T., Jr & McCrae, R. R. (1985). NEO PIFFI manual supplement. Odessa, FL: Psychological Assessment Resources.
Ditte, D., Schultz, W., Ernst, G., & Schmid-Ott, G. (2011). Attitudes towards complementary and alternative medicine among medical and psychology students. Psychology, Health & Medicine, 16, 225–237. http://dx.doi.org/10.1080/13548506.2010.532539
Eisenberg, D. M., Davis, R. B., Ettner, S. L., Appel, S., Wilkey, S., … Banerjee, S. (1998). Trends in alternative medicine use in the United States, 1990–1997. Journal of the American Medical Association, 280, 1569–1575. http://dx.doi.org/10.1001/jama.280.18.1569
European Health Interview Survey [Égészségfelmérés, ELEF]. (2009). Statisztikai Tükör. Budapest: Központi Statisztikai Hivatal/Hungarian Central Statistical Office.
Feldman, R. H., & Laura, R. (2006). The use of complementary and alternative medicine practices among Australian university students. Complement Health Practice Review, 9, 173–179.
Finnigan, M. D. (1991). The centre for the study of complementary medicine: An attempt to understand its popularity through psychological, demographic and operational criteria. Complementary Medical Research, 5, 79–82.
Frye, A. W., Sierpina, V. S., Boisabain, E. V., & Bulik, R. J. (2006). Measuring what medical students think about complementary and alternative medicine (CAM): A pilot study of the complementary and alternative medicine survey. Advances in Health Sciences Education, 11, 19–32. http://dx.doi.org/10.1007/s10459-005-1587-y
 Furnham, A., & McGill, C. (2003). Medical students’ attitudes about complementary and alternative medicine. The Journal of Alternative and Complementary Medicine, 9, 275–284. http://dx.doi.org/10.1089/1075553036023392
Gladding, S. (1992). Counseling as an art: The creative arts in counseling. Alexandria, VA: American Counseling Association.
Halcon, L. L., Chlan, L. L., Kreitzer, M. J., & Leonard, B. J. (2003). Complementary therapies and healing practices: Faculty/student beliefs and attitudes and the implications for nursing education. Journal of Professional Nursing, 19, 387–397.

John, O. P., & Srivastava, S. (1999). The big-five trait taxonomy: History, measurement, and theoretical perspectives. In L. A. Pervin & O. P. John (Eds.), Handbook of personality: Theory and research (Vol. 2, pp. 102–138). New York, NY: Guilford Press.

Koller, M., & Walla, P. (2012). Measuring affective information processing in information systems and consumer research—Introducing startle reflex modulation. Source of the Document International Conference on Information Systems, ICIS, 2012, 1984–1999.

Koller, M., & Walla, P. (2015). Towards alternative ways to measure attitudes related to consumption: Introducing startle reflex modulation. Journal of Agricultural & Food Industrial Organization, 13, 83–88.

Kronenberg, F., Cushman, L. F., Wade, C. M., Kalmsuus, D., & Choo, M. T. (2006). Race/ethnicity and women’s use of complementary and alternative medicine in the United States: Results of a national survey. American Journal of Public Health, 96, 1236–1242. http://dx.doi.org/10.2105/AJPH.2004.047688

Kruszakowski, M., Malii, T., & Modestin, J. (2003). Use of alternative therapy by psychiatric inpatients. International Journal of Psychiatry in Clinical Practice, 7, 161–166.

Longer, A., Boeker, R., Kamedo, G., Seiffert, G., Hötthäuser, F., & Ostermann, T. (2012). Attitudes and beliefs of paediatric oncologists regarding complementary and alternative therapies. Complementary Therapies in Medicine, 21, S10–19.

Lewith, G. T., Hyland, M., & Gray, S. F. (2001). Attitudes to and use of complementary medicine among physicians in the United Kingdom. Complementary Therapies in Medicine, 9, 167–172.

Lewith, G. T., Hyland, M. E., & Shaw, S. (2002). Do attitudes toward and beliefs about complementary medicine affect treatment outcomes? American Journal of Public Health, 92, 1064–1067.

Malchiodi, C. A. (2005). Expressive therapies. New York, NY: Guilford Press.

McCabe, R. R. (1987). Creativity, divergent thinking, and openness to experience. Journal of Personality and Social Psychology, 52, 1258–1265. http://dx.doi.org/10.1037/0022-3514.52.6.1258

Nagy, J., & SzirmákZs. (2007). BFI-Hungarian. Retrieved from https://www.ucf.berkeley.edu/~johnlabb/pdfs/BFI-Hungarian.pdf

Nowak, A. L. V., & Dorman, S. M. (2008). Social-cognitive predictors of college student use of complementary and alternative medicine. American Journal of Health Education, 39, 80–90. http://dx.doi.org/10.1080/19325037.2008.1059019

Petterson, S., & Olsen, R. V. (2007). Exploring predictors of health sciences students’ attitudes towards complementary-alternative medicine. Advances in Health Sciences Education, 12, 35–53. http://dx.doi.org/10.1007/s10459-005-3054-1

Pirotta, M. V., Cohen, M. M., Kotsirilos, V., & Fairish, S. J. (2000). Complementary therapies: Have they become accepted in general practice? Medical Journal of Australia, 172, 105–109.

Risberg, T., Kolstad, A., Bremnes, Y., Holte, H., Wist, E. A., ... Cassileth, B. R. (2004). Knowledge of and attitudes toward complementary and alternative therapies. European Journal of Cancer, 40, 529–535. http://dx.doi.org/10.1016/j.ejca.2003.11.011

Sirois, F. M., & Gick, M. L. (2002). An investigation of the health beliefs and motivations of complementary medicine clients. Social Science and Medicine, 55, 1025–1037. http://dx.doi.org/10.1016/S0277-9536(01)00229-5

Smith, B. W., Dolen, J., Wiggins, K. T., Christopher, P. J., Bernard, J. F., & Shelley, B. M. (2008). Who is willing to use complementary and alternative medicine? EXPLORE: The Journal of Science and Healing, 4, 359–367. http://dx.doi.org/10.1080/23311908.2016.1241459

Struthers, R., & Nicholas, L. A. (2006). Utilization of complementary and alternative medicine among racial and ethnic minority populations: Implications for reducing health disparities. Annual Review of Nursing Research, 22, 285–313.

Thomson, R. A. (2003). Counseling techniques. New York, NY: Brunner-Routledge. http://dx.doi.org/10.4324/9780203427316

Tracy, M. F., Lindquist, R., Watanuki, S., Sendelbach, S., Kreitzer, M. J., ... Sovik, K. (2003). Nurse attitudes towards the use of complementary and alternative therapies in critical care. Heart & Lung: The Journal of Acute and Critical Care, 32, 197–205. http://dx.doi.org/10.1016/S0147-9563(03)00040-2

Torr-Mahan, T., Mao, C. L., & Bowel-Brinkley, K. (2013). Complementary and alternative medicine: Nurses’ attitudes and knowledge. Pain Management Nursing, 14, 277–286. http://dx.doi.org/10.1016/j.pmn.2011.06.001

Underwood, D., Kim, H., & Matier, M. (2000). To mail or to web: Comparisons of survey response rates and respondent characteristics. Paper presented at the Annual Forum of the Association for Institutional Research, Cincinnati, OH.

Uzun, Ö., & Tan, M. (2004). Nursing students’ opinions and knowledge about complementary and alternative medicine therapies. Complementary Therapies in Nursing and Midwifery, 10, 239–244. http://dx.doi.org/10.1016/j.ctnm.2004.06.004

Vargha, A. (2007). Mathematical statistics with applications in psychology, linguistics, and biology. Budapest: Pólya.

Walla, P., & Koller, M. (2015). Emotion is not what you think it is: Startle reflex modulation (SRM) as a measure of affective processing in Neurons. Lecture Notes in Information Systems and Organisation, 10, 181–186. http://dx.doi.org/10.1007/978-3-319-18702-0

Walla, P., Brenner, G., & Koller, M. (2011). Objective measures of emotion related to brand attitude: A new way to quantify emotion-related aspects relevant to marketing. PLoS ONE, 6, e26782. doi:10.1371/journal.pone.0026782

Walla, P., Koller, M., & Meier, J. (2014). Consumer neuroscience to inform consumers—physiological methods to identify attitude formation related to over-consumption and environmental damage. Frontiers in Human Neuroscience, Retrieved May 20, 2014, from http://dx.doi.org/10.3389/ fnhum.2014.00304

White, K. P. (2000). Psychology and complementary and alternative medicine. Professional Psychology: Research and Practice, 31, 671–681. http://dx.doi.org/10.1037/0735-7028.31.6.671

Wilkinson, J., & Simpson, M. (2001). Complementary therapy use by nursing, pharmacy and biomedical science students. Nursing and Health Sciences, 3, 19–27. http://dx.doi.org/10.1046/j.1442-2018.2001.00067.x

Wilson, L.-A. M., & White, K. M. (2007). Development of an attitudes towards complementary therapies scale for psychologists. Clinical Psychologist, 11, 37–44. http://dx.doi.org/10.1080/13284420701411544
Appendix 1

How would you describe your view on expressive or creative art therapies (including: art, music, dance/movement, drama, psychodrama, poetry, writing, phototherapy and bibliotherapy generally)?

Definition: Expressive therapies use arts modalities and different creative methods in order to facilitate psychological change and healing. (Thomson, 2009)

Please place a vertical mark on the line below to indicate your attitude!

| Very Negative | Very Positive |
|---------------|---------------|
|               | 100           |
| Attitude      |               |
| 0             |               |

How would you describe your knowledge of expressive or creative art therapies (including: art, music, dance/movement, drama, psychodrama, poetry, writing, phototherapy and bibliotherapy)?

Please place a vertical mark on the line below to indicate your knowledge!

| No knowledge | Lots of knowledge |
|--------------|-------------------|
|               | 100               |
| Knowledge     |                   |
| 0             |                   |

Please indicate your answers on the lines:

- Would you be interested in additional training in this field?
- Would you use in your future practice?
- If your school offered free workshops or classes as special topics about creative arts that you attended?

| Definitely not | Definitely yes |
|---------------|---------------|
|               | 100           |

© 2016 The Author(s). This open access article is distributed under a Creative Commons Attribution (CC-BY) 4.0 license.

You are free to:
- Share — copy and redistribute the material in any medium or format
- Adapt — remix, transform, and build upon the material for any purpose, even commercially

The licensor cannot revoke these freedoms as long as you follow the license terms.

Under the following terms:
- Attribution — You must give appropriate credit, provide a link to the license, and indicate if changes were made. You may do so in any reasonable manner, but not in any way that suggests the licensor endorses you or your use.
- No additional restrictions — You may not apply legal terms or technological measures that legally restrict others from doing anything the license permits.