



**EFFECTS OF PERSONALITY AND ATTITUDE TOWARD TATTOOING AND BODY PIERCING  
AS RISK-TAKING BEHAVIOR AMONG UNDERGRADUATES IN EKITI STATE  
UNIVERSITY, ADO EKIT, NIGERIA**

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**Abstract:** The study examined the effects of personality and attitude towards tattooing and the body piercing as risk-taking behaviour among undergraduates. The subjects were drawn from eight faculties in Ekiti State University, and the sample comprised of one hundred and ninety-nine (199) subjects which comprising one hundred and two (102) males and ninety seven (97) females. Three instruments were used to collect data; EPQ was used to measure the personality traits of subjects, tattooing and body piercing scale was also used to measure the attitude of subjects towards tattooing and body piercing, while risk-taking behaviour scale (DOSPERT) was used to assess the subjects' level of risk-taking behaviour activities. The result showed that, there is a significant main influence of neuroticism and body piercing on health, safety and there is also a significant join influence of personality and body piercing on health safety, also there is a significant main influence of extraversion and neuroticism on recreation. Furthermore the result of the findings also showed that there is a significant relationship between neurotic and health safety, extraversion and recreation; others are not related. There is a significant difference in health safety between males and females ( $t - (197) = -2.25$   $p < 0.05$ ). No significant difference between males and females on all other dimension of risk-taking behaviour. No significant difference in the attitude between males and females towards body piercing and tattoo. It is recommended that students, parents and health officials should be alerted to the need for continuing education on these matters.

**Key words:** Personality, Attitude, tattooing, body piercing, risk taking behavior.

**Introduction:** There are suggestions of an increasing number of body art practices in the

young people all over the world, commercial and domestic, as a result of growing interest by the public (Armstrong, *et al.*, 2007; Alan Beswick and Calderdale Council, 2008; Clay, 2009; Cuyper and Perez-Cotapos, 2010). This growing interest in body art, especially tattooing and body piercing, has caused concern not only amongst health professionals (who recognize the potential for the spread of infection during these

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practice) and environmental health professionals (who are responsible for ensuring those carrying out these practices and their premises are properly regulated) but also amongst politicians who have more recently debated issues arising from effects of these practices. More worrying is the finding that some practitioners and their clients are not aware of the risk of complications associated with these practices (Oberdorfer, *et al.*, 2003; Benjamins, *et al.*, 2006; Cuyper and Perez-Cotapos, 2010).

Over the last two decades, the general body art and modification (tattoos, body piercing) phenomenon has experienced a middle and upper class artistic renaissance, further popularized by the media, movies, and sports celebrities. Many people of different ages, social classes, and occupations, including career women, adolescents, military recruits, and college students have obtained body art (Armstrong, 1991; Armstrong & McConnell, 1994; Armstrong, Owen, Roberts, & Koch, 2000a, 2000b; Armstrong & Pace- Murphy, 1997; Armstrong, Pace Murphy, Salleg. & Watson, 2000; Greif, Hewitt, & Armstrong, 1999). While visible body art sites 'can be seen during a cursory review of the individual, often the semi visible and concealed body sites that also are pierced and or tattooed are not revealed, exposed only when the person feels comfortable or wants to display their body art.

Most articles on tattoo and body piercing practices published in the last 10 years suggest that they are experiencing a growing popularity in Western societies, especially among youth, and moreover, that they have not yet reached their peak (Armstrong & Kelly, 2001; McCormack-Brown, Perlmutter, & McDermott, 2000; Peate, 2000; Stirn, 2003). Until the 1970s, both of these forms of body modification were often associated with deviant or criminal behavior (Beauregard, 2001; Fisher, 2002) and some recent studies among specific groups such as prison and military populations still suggest

that these practices belong to the realm of deviance (Braithwaite, Robillard, Woodring, Stephens, & Arinola, 2001; Carroll, Riffenburgh, Roberts, & Myhe, 2002).

However, According to many authors, body modification has not only become an increasingly common feature among urban youth but is also practiced across a diversity of social groups of all ages, genders, social backgrounds and occupations (Armstrong, Ekmark, & Brooks, 1995; Atkinson, 2003; Fisher, 2002; Levins, 1998; Marcoux, 2001). These practices are perceived more and more as adornment or artwork, increasingly belonging to the realm of generational conformity (Levins, 1998; Makkai & McAllister, 2001; McCornack-Brown *et al.*, 2000; Willmott, 2001).

Tattooing is defined as '*the practice of producing an indelible mark or figure on the human body by inserting pigment under the skin using needles or other sharp instruments*' (Cuyper and Perez-Cotapos, 2010). Cuyper and Perez-Cotapos (2010) and the America Academy of Dermatology (2012) assert that there are five types of tattooing, these are:

(a) Traumatic (natural)

(b) Amateur

(c) Professional

(d) Cosmetic, mainly those used for permanent makeup e.g. eye liners and e) Medical tattoos (also called dermatography, used in nipple reconstruction, camouflage for scars, alopecia, vitiligo and birthmarks). Tattooing and piercing appear to have an addictive element (Pitts, 2003). Few individuals with body modifications that serve a function other than just the aesthetic have only a single piercing/tattoo. Many will admit that they would like to have, and possibly will be getting, more piercing/tattoos.

Tattooing is historically practiced in every continent and while it may still denote an art associated with high-risk behaviour its practice continues to grow. The recent resurgence of

tattooing is encouraged by societal acceptance, more so as it is now one of the adornments of societal models and mentors.

The prevalence of tattooing in Nigeria cannot be ascertained but the UK could probably have been ascertained through record kept by tattooist however, this may be restricted for commercial reasons, if such information is routinely kept. Also, not all tattoos would have been conducted in these practices. There could be inconsistency on record keeping across tattoo practices, which may also lead to poor case ascertainment.

The lack of documented evidence on the prevalence of tattooing in Nigeria highlights a need for research/study to ascertain the prevalence of tattoo in Nigeria. This will give a true indication of the scale and potential impact of tattooing and some of its associated complications in the Country.

Although the word tattoo appears to have originated from the Tahitian word 'tatu', meaning 'to mark', the practice dates back to Neolithic times and has been practiced in every continent of the world (Makkai and McAllister, 2001; Groom, 2006; Cuyper and Perez-Cotapos, 2010). There is no continuous history on tattooing but it appears tattooing was widely practiced during pre-historic Britain until the advent of Christianity (Deschesnes 2006; Groom, 2006; Armstrong., 2007; Cuyper and Perez-Cotapos, 2010; Jafari, 2010). Some authors even claim that the 'Picts' (original inhabitants of northern Britain) literally meant 'the painted people' and that Britain, meaning 'people of design' derived its name from tattoo and that the British are the most tattooed people in Europe (Groom, 2006; Wikipedia, 2012).

Tattooing has since resurged, mostly used for aesthetic and self expression purposes, and has been observed amongst people of all ages, classes and occupation with society now polarized between tattooing as aesthetic/cosmetic or a sign of deviant and carefree behaviour, although the former view

appears to be gaining greater ground (Armstrong and Murphy, 1997; Makkai and McAllister, 2001; Armstrong *et al.*, 2004; Benjamins 2006; Laumann and Derick, 2006; Urdang 2011; Harris Interactive, 2012).

Regardless of the rationale for tattooing and the societal norm, tattooing remains a risky practice with the potential for life threatening and irreversible complication, especially when practiced under unhygienic conditions. Tattoo is conducted in various settings, these settings include dedicated parlours, mobile units, auxiliary settings e.g. hairdressing salons; institutional settings i.e. prisons, armed force bases and even domestic settings.

The procedure involves the injection of a colorant (dyes/pigments) into the skin using certain instruments. The type of instrument used varies from standard electrical powered vertical vibrating instruments to pencils, pens, and sewing needles, guitar strings and homemade devices (Armstrong and Murphy, 1997; Armstrong *et al.*, 2000; Laumann and Derick 2006; Cuyper and Perez-Cotapos, 2010; Rania and Scott, 2012). These instruments are inserted in the tattoo inks (which contain various dyes/pigments, contents of which are often not known) and then injected into the skin at levels that are dependent on the skills and experience of the tattooist, the type of tattoo and to a large extent the type of tattooing device used (Cuyper and Perez-Cotapos, 2010).

There are two distinct types of practice, which are dependent on the context of the procedure; these are amateur and professional tattoo practice (Cuyper and Perez-Cotapos, 2010). It appears that most of the risks of complications are attributed to amateur practices that tend to conduct tattoo under unregulated and unhygienic conditions (Armstrong *et al.*, 2000; Nishioka 2002; Cuyper and Perez-Cotapos, 2010; Rania and Scott 2012).

However, a significant number of complications can be traced to professional practice (Haley and

Fischer 2001; Cuyper and Perez-Cotapos, 2010). Often, the definition of a professional practice in these situations (i.e. with link to reported complications) is blurred by different criteria for definition i.e. practitioner in a dedicated parlour who complies with regulation, practitioner with a tattoo gun, practitioner who has conducted a lot of tattoos, practitioner who displays evidence of attendance at a training/course. Irrespective of the definition, common theme amongst these professional practices is the poor understanding of aseptic practice, poor after-care knowledge and understanding, and poor awareness of complications that could arise from their practice. It is often the case that the clients are also not aware of these, either.

Complications tend to arise in the immediate hours (e.g. bleeding, swelling and itching) or in the weeks following the procedure (e.g. infections, psychosocial issues) and these latter complications are sometimes long term with irreversible consequences.

The subgroup of the population that is most influenced by trends, media and other factors, are adolescents and young adults (19-25 years). The reasons for having a tattoo in this group vary individually. Another recent development is that, over the past few decades, women are catching up on men when it comes to tattoo prevalence. Tattoos used to be more of a 'guy thing' but nowadays, the number of men and women with tattoos are roughly the same (Laumann, 2006). However, women have a lesser percentage of body surface area covered by tattoos, which means that men usually have bigger tattoos (Laumann & Derick, 2006).

In tattoo literature, common and some less common reasons for having a 'modern' tattoo (hereby excluding permanent make up) have been explored. A short overview of the most important motivations that are mentioned in scientific tattoo-related literature are:-

- Aesthetics- liking the way tattoos look, sometimes associated with the notion of 'art' on the body (Leonard, 1998);
- Media influence – many tattooed movie, sports, fashion and music idols create an example for the 'mass' (Kosut, 2006). Also, unpopular subgroups that were used to be known for extensive tattooing are ignored by media to maintain the popular image of the tattoo (DeMello, 1995).
- Fashion trend- tattoos are now often seen as a fashion trend or craze (Armstrong, 1996; Martin, 1997), which is enhanced by the media as well. However, the main difference with a usual trend, is that tattoos are worn in the body, whereas other trends are worn on the body and can be easily changed. Kosut (2006) even goes as far as to describe the tattoo as 'an ironic fad', because of its permanent character, which may be the cause of regrets later in life.
- Expressing yourself/Uniqueness- Tattoos can create a sense of uniqueness, a way of being able to distinguish oneself in society (Demello, 1995). It can be a way to express yourself and to show what your ideas and ideals are (McAuliffe, 1990). The tough, 'macho' character of the tattoo makes it appealing for youngsters to differ from the established order (and to upset their parents). A research that was performed in 2006 (Tigerman & Golder, 2006) shows that tattooed individuals have a greater 'Need for Uniqueness' (a construct from the 'theory of Uniqueness' by Snyder & Fromkin, 1977).
- Tattoo and group cohesion- tattoos may enhance group cohesion, for example, in a supporter group of a soccer club, or in gang life. It can also be the result of peer pressure (Wohlrab *et al.*, 2006).
- Personal growth, spirituality and religion- A reason for having a tattoo can be 'the marking of a period of personal growth; Having a tattoo can have a very mystical and

spiritual meaning to a person, which can add substantial meaning to his or her life or identity (Mc Auliffe, 1990). Coming up with a design, undergoing the (often painful) application of a tattoo, and bearing it for the rest of one's life can certainly have a spiritual meaning (DeMello, 1990). Religious tattoos manifest some kind of religious devotion. Although tattoos are banned by the Bible (Leviticus 19:28) and the Koran, tattoos are, since the beginning of time, often used to honor gods and spirits (Scheinfeld, 2007).

- Status symbol – a tattoo can be a status symbol, analogous to having a good job or a lot of money (Demello, 1990). Because of the fact that wealthy, prominent people, such as actors, athletes and musicians, show the world their tattoos through the media, it could be possible that 'normal people' will start to see tattoos as a status symbol as well.
- Cosmetic aid- cosmetic tattoos have made since 1984 and can be subdivided into permanent make up (PMU), which can be used to define or redefine eyebrows, lips and other (facial) and a more medical approach, such as the camouflaging of skin problems for example, hypo-pigmentation (light spots on the skin), scars, and other skin problems. A well-known example of tattooing in the medical world is the reconstruction of a nipple after breast surgery. Wohlrab, Stahl & Kappeler (2006) state that there are even as much as ten categories of motivational factors for getting a tattoo: beauty, art and fashion; individuality; personal narrative; physical endurance; group affiliation and commitment, resistance; spirituality and cultural tradition; addition; sexual motivation and no specific reason. These categories are quite similar to categories stated above, apart from 'physical endurance' (taking pride in enduring the pain of getting a tattoo), 'addiction' (being

addicted to tattoos or the process of getting tattoos) and 'sexual motivation' (expressing one's sexuality or sexual preference through tattoos). The most frequently mentioned motivations in literatures are expression of individuality' and the 'embellishment of the own body' (Wohlrab *et al.*, 2006), and motivations that have to do with 'uniqueness' and 'self-expression' (Armstrong *et al.*, 2008).

While tattooing and body piercing are becoming a widespread and accepted tradition among youth and young adults across many social classes, the practices are not without controversy. For example, two recent studies (Carroll, Riffenburgh, Roberts, & Myhre, 2002, p. 1021; Roberts, Auinger, & Ryan, 2004; Roberts & Ryan, 2002) concluded tattoos and body piercings "are markers of risk-taking behaviours in adolescents," and should serve as a "warning signal or screening device leading to medical monitoring and/or counseling." These stereotypical concerns, as well as the psychosocial influences of body art, are of importance to the nurse caring for this population. Frequently, single studies examine either tattooing or body piercing concentrate mainly on prevalence, have few common variables, and provide no opportunity to compare data. With the current popularity of body art, similar studies of both tattooing and body piercing can provide strength for a composite picture of those with and without body art, leading a better understanding of the decision making and influences for obtaining body art. Examining what influences the procurement of body art and attitude correlations provides not only information about individual choices, but also provides an important view into the body art and culture. So it is expedient as this research concerns itself with investigating the risk taking behaviour of body modification.

The significance of the findings may help explain behavioural trends in today's young

adult population on the prevalence of body piercing and tattoo. The lack of evidence on body modification in Nigeria will make the work so significant as it will help explain the prevalence of body modification among youths and university undergraduates taking into consideration their personality and attitudinal disposition to it.

### Research Hypotheses

1. Personality and attitude towards tattoo / body piercing will significantly influence in predicting risk taking behaviour among undergraduates.
2. There will be a significant difference in the risk taking between male and female undergraduates.
3. There will be a significant negative relationship between personality, attitude of body piercing and risk taking among undergraduates.
4. There will be a significant difference in the attitude towards tattoo/body piercing between male and female undergraduates.

### Operational Definitions of Terms

**Personality Trait:** for the purpose of this study, personality trait will mean a steady character of an individual as measured by Eysenck personality questionnaire (EPQ)

**Attitude towards Tattoo:** for the purpose of this study attitude towards tattoo will mean likeness or dislike for tattoo and body piercing:

**Risk – Taking Behaviour:** for the purpose of this study, risk – taking behaviour would mean doing dangerous thing as measured by Dospert.(Kogan& Wallach 1964).

**Deviance-** this is used not in an evaluative sense but to refer to departure from conventional norms.

### Research Method

This section discusses the design implementation in the study. A survey was conducted to collect the empirical data. The research design for the study is descriptive

survey design. This design is the major procedure employed in realizing the major objectives of the study since the design do not manipulate anything in the specified aspect of the real world for study.

The sample of the study consists of 250 randomly selected from eight faculties in the university. All subjects were full time students and their demographical details were taken into consideration. 250 questionnaires were shared among the sampled subjects but only 199 were correctly filled and the remaining questionnaires were discarded. The measuring instruments which are used in this study. The self administered questionnaires are in paper and pencil format. The questionnaire is handed to the respondents, who completes it on his/her own but the researcher is available in case any problem may be experienced.

This section contain instrument that have been used in the study: four instruments were to measures variables of the study the following were the scale used : the short – form revised Eysenck personality questionnaire (EPQ) to measure the personality type of objects, Attitude toward tattoo and body piercing scale develop by researcher to measure attitude of objects toward tattoo and body piercing, and short – form revised risk taking behavior scale (Dospert) develop by Kogan& Wallach, (1964) used to measure risk – taking behavior activities of objects.

This instrument has four sections which will be divided as follows. Attitude toward tattoo and body piercing scale developed by Omolara A, &Ifeoluwa (2014). Tattoo and body piercing scale contain 22 Item which used to measure attitude of the participants toward tattoo and body piercing. Necessary amendment and correction were made by the supervisor, after the necessary amendment and correction were made, conference of expert was convened to check maybe the questions truly measure what the researcher want to measure, and finally the

researcher now went on a pilot test to check the reliability of the constructed questionnaire. Content validity also calculated to know the validity also calculated to know the validity of scale. The overall value for the test – retest reliability co-efficient was 0.64 the overall value for the content validity was 0.60. The slip half reliability was 0.48.

**Risk – Taking Behavior Scale**

The short – form revised risk – taking behavior scale (Dospert) developed by Kogan and Wallach, (1964) revised contain 30 Items while original version contain 40 items Kogan and Wallach (1964) reported internal consistence (Cronbach’s alpha) of respectively, 0.53 (n =

112) and 0.62 (n = 103) for men and women the overall alpha coefficient was 0.69.

Note:- ethical, I = investment, G = gambling, H = Health/safety, R = recreational and S = social items number 1,8,21,22,27 and 28 was social issue question 2,11,13,19,24 and 25 was recreational 3,4,8,12,14 and 18 was financial issue 5,15,17,20,23 and 16 was health and safety question finally 9,10,16,29 and 30 was ethical questions.

The statistical method used for analyzing the data was independent t-test and two way analysis of variance (ANOVA). The Independent t – test was used to test differences existing between two means in the hypotheses formulated.

**Result:**

**Table 4.1:** Regression summary table showing the influence of personality and attitude to body piercing on the dimensions of risk taking behaviours.

| Social issue           | Variable      | Beta   | T       | R    | R2   | F      |
|------------------------|---------------|--------|---------|------|------|--------|
|                        | Psychoticism  | -.020  | -258    |      |      |        |
|                        | Extraversion  | .079   | .936    | .078 | .006 | .246   |
|                        | Neuroticism   | -.017  | -200    |      |      |        |
|                        | Body piercing | -.005  | -.067   |      |      |        |
| <b>Health safety</b>   | Psychoticism  | -.009  | -.123   |      |      |        |
|                        | Extraversion  | .114   | 1.495   |      |      |        |
|                        | Neuroticism   | .190   | 2.34*   | .306 | .093 | 4.12** |
|                        | Body piercing | -0.170 | 2.27*   |      |      |        |
| <b>Financial issue</b> | Psychoticism  | .012   | .151    |      |      |        |
|                        | Extraversion  | -.090  | -1.07   | .141 | .020 | .52    |
|                        | Neuroticism   | -.007  | -.081   |      |      |        |
|                        | Body piercing | -.108  | 1.38    |      |      |        |
| <b>Ethical</b>         | Psychoticism  | -101   | 1.29    |      |      |        |
|                        | Extraversion  | -.099  | -1.18   | .176 | .031 | 1.28   |
|                        | Neuroticism   | .36    | .43     |      |      |        |
|                        | Body piercing | -.108  | 1.38    |      |      |        |
| <b>Recreation</b>      | Psychoticism  | -.092  | -1.24   |      |      |        |
|                        | Extraversion  | -.344  | -4.33** | .356 | .127 | 5.79** |
|                        | Neuroticism   | .256   | 3.22**  |      |      |        |
|                        | Body piercing | .029   | .388    |      |      |        |

\*significant at 0.05, \*\* significant at 0.01.

There is a significant main influence of neuroticism and body piercing on health, safety,

there is also a significant joint influence of personality and body piercing on health safety,

there is a significant main influence of extraversion and neuroticism on recreation. There is also a significant joint influence of personality and body piercing on recreation.

Others are not significant. No significant influence of personality and body piercing on social risk issue Therefore the hypothesis is partially confirmed

**Table 2:** Independent t-test table showing the effect of gender on risk taking behaviour

| Variable        |        | N   | Mean  | SD    | SE   | Df  | t      |
|-----------------|--------|-----|-------|-------|------|-----|--------|
| Social issue    | Male   | 102 | 21.98 | 3.97  | .37  | 197 | -.26   |
|                 | Female | 97  | 22.12 | 4.08  | .41  |     |        |
| Health safety   | Male   | 102 | 18.51 | 5.59  | .55  | 197 | -2.25* |
|                 | Female | 97  | 20.29 | 5.53  | .56  |     |        |
| Financial issue | Male   | 102 | 19.82 | 4.44  | .44  | 197 | -.93   |
|                 | Female | 97  | 20.37 | 3.87  | .39  |     |        |
| Ethical         | Male   | 102 | 21.46 | 4.80  | .48  | 197 | .057   |
|                 | Female | 97  | 21.42 | 4.65  | .47  |     |        |
| Recreation      | Male   | 102 | 19.38 | 10.27 | 1.02 | 197 | -1.11  |
|                 | Female | 97  | 20.67 | 5.02  | .51  |     |        |

\* Significant at 0.05

There is a significant difference in health safety between males and females  $t - (197) = -2.25$   $p < .05$

No significant difference between males and female on all other dimension of risk taking behaviour.

**TABLE 3:**Correlation table showing the relationship between risk – taking behaviour, attitude to body piercing and personality.

| Variable         | N   | $\bar{X}$ | SD    | 1     | 2       | 3      | 4     | 5       | 6     | 7    | 8    |
|------------------|-----|-----------|-------|-------|---------|--------|-------|---------|-------|------|------|
| Psychoticism     | 200 | 5.16      | 1.32  | -     |         |        |       |         |       |      |      |
| Extraversion     |     | 6.89      | 1.54  | -.033 | -       |        |       |         |       |      |      |
| Neuroticism      |     | 6.30      | 1.71  | .039  | .349**  | -      |       |         |       |      |      |
| Social issue     |     | 22.04     | 3.91  | -.133 | .078    | -.010  | -     |         |       |      |      |
| Health safety    |     | 19.37     | 5.61  | .043  | -.134   | .191** | .084  |         |       |      |      |
| Financial issues |     | 20.10     | 4.16  | .031  | -.118   | -.030  | -.040 | -.228** | -     |      |      |
| Ethical          |     | 21.45     | 4.71  | .027  | -.127   | -.044  | -.069 | .020    | -.096 | -    |      |
| Recreation       |     | 19.99     | 8.14  | .093  | -.221** | .130   | -.059 | .045    | .066  | .021 | -    |
| Body piercing    |     | 57.08     | 12.37 | -.001 | -.021   | -.006  | -.007 | .169*   | -.106 | .110 | .038 |

\* Significant at .05, \*\* significant at .01

There is no significant relationship between body piercing and personality

**TABLE 4:** Independent t – test table showing the different in the attitude to the body piercing and tattoo between males and females undergraduate

| VARIABLE | N  | X     | SD    | SE   | df  | t    |
|----------|----|-------|-------|------|-----|------|
| MALES    | 86 | 57.43 | 13.47 | 1.45 | 162 | .413 |
| FEMALES  | 78 | 56.63 | 11.17 | 1.26 |     |      |

There is no significant difference in the attitude between males and females toward body piercing and tattoo.

**Discussion**

Result of the first hypothesis revealed that, there is a significant main influence of neuroticism and body piercing on health, safety, there is also a significant joint influence of personality and body piercing on health safety, there is a significant main influence of extraversion and neuroticism on recreation. There is also a significant joint influence of personality and body piercing on recreation.

No significant influence of personality and body piercing on social risk issue. This finding implies that there is a great influence of personality especially two main dimensions which are:

Extraversion and Neuroticism while others show no significant differences.

In one recent study, individuals with body modification tended to see themselves as especially creative, artistic, and individualistic (Drews, Allison, & Probst, 2000). In sum, there is good reason to believe that openness to experience should be associated with both a greater number and diversity of body modifications. For several reasons, some researchers also anticipated that *extraversion* would be associated with body modification. First, one of the key facets of extraversion is sensation seeking (Costa & McCrae, 1992). In

the only published study, Roberti, Storch, and Bravata (2004) reported positive associations with body modification. Our prediction about extraversion is further supported by links between body modification and another key facet of extraversion, namely, impulsivity (Drews, 2000). Many reported their decision to acquire body modification was made on the “spur of the moment” (Drews, 2000; Mosher, Oliver, & Dolgan, 1967; Myers, 1992; Sanders, 1988).

In addition, we saw a link between *neuroticism* and body modification. A recent set of studies in young community samples suggested that those with body modifications score significantly higher on depression, hostility, and anxiety (Carroll & Anderson, 2002; Ross & Heath, 2003). Given that neuroticism is characterized in part by all three of these outcomes as facets (Costa & McCrae, 1992), we predict a positive association with body modification. Our findings seem to contradict the finding on other personality dimension, another research reported link between low *conscientiousness* and body modification. Like psychopaths those low in conscientiousness are irresponsible and lacking in impulse control (Paulhus & Williams, 2002). Given that body modifications are often acquired on the spur of the moment (Drews *et al.*, 2000), such tendencies should make low conscientious individuals particularly susceptible. In the most relevant study, Forbes (2001) found that those with body modification described themselves as reckless. Finally, recent work at the facet level has suggested some overlap of low conscientiousness with the openness facet of unconventionality (Roberts *et al.*, 2004), thereby adding another motivation for body modification. It was also noted that Tattooed individuals seem to obtain higher scores in Sensation Seeking (Roberti, Storch & Bravata, 2004) as well as in extraversion and body consciousness (Delazar, 2005). It stands to reason that personality traits should have an impact on the choice to undergo body

modification. After all, they bear on bedroom decoration (Gosling, Ko, Mannarelli, & Morris, 2002) and cosmetic choice (Cash, 1988) as well as clothing choice (Cosbey, 2001). We also know that body modification is associated with creativity (Sanders, 1988, 1989)

From the result of the second hypothesis testing effect of Gender on risk taking behavior, the result showed that There is a significant difference in health safety between males and females  $t(197) = -2.25, p < .05$

No significant difference between males and female on all other dimension of risk taking behaviour.

The studies among “at-risk” adolescents showed that tattoos and body piercing are associated with tobacco, alcohol and drug use (Braithwaite *et al.*, 2001; Brooks, Woods, Knight, & Shrier, 2003; Carroll *et al.*, 2002; Drews, Allison, & Probst, 2000). Research conducted by Carroll *et al.* (2002) indicated that youth aged 12–22 attending a military clinic who have at least one tattoo or body piercing are also more at risk of having suicidal thoughts and eating disorders. Their study established a relationship between violence and tattoos in boys and violence and piercing in girls.

Another study conducted among adolescent females aged 15–18 identified as having “truancy” problems also established a link between having many body modifications and a negative perception of one’s body, as well as with symptoms of depression and some aggressive personality traits (Carroll & Anderson, 2002).

### **Conclusion**

Nowadays, tattooing and body piercing are perceived by many as body decoration or artwork, growing in popularity and increasingly belonging to the realm of generational conformity, given their apparent increase and normalization.

Given the strong link between body modification and “externalized risk behaviours” in high school students, tattooing and body piercing may serve as clinical markers

that can provide health professionals with additional warning signs regarding externalized risk behaviours. Tattooed or pierced teenagers require careful evaluation in order to identify those who may be involved in activities that could potentially hinder their security and development. As adolescence is a crucial period during which early prevention efforts can reduce the immediate and long-term consequences of risk-taking behaviours, the findings here can be useful for a variety of professionals such as school counselors, nurses and physicians who are in contact with teenagers and in a position to address potentially life-threatening consequences of risk-taking behaviour or to facilitate referral when necessary.

We hope that such data encourage the public to replace stereotypic reactions to deviance markers with a healthy curiosity to learn more about their significance in the lives of the marked individuals. Researchers too should refrain from blanket positive or negative perspectives on markers. The health care community, in particular, must react in a more nuanced fashion: Intervention may be called for if markers indicate damaged self-esteem.

Cautious monitoring is required if the markers indicate subclinical psychopathy. Outright encouragement is appropriate if markers indicate creative expression. Otherwise, because the appropriate reactions are so different, a “rush to judgment” could have serious consequences to the individual.

### **Recommendations**

The present study has generated information in an area where little is available. It adds significantly to previously published studies in this area as it provides a more reliable and generalizable picture of the phenomenon in adolescents. Our results disprove the idea of greater normalization of body modification among adolescents. As some researchers argued, people modify the body partly in order to manage individual drives, impulses and emotions (Atkinson, 2003) or as a way to gain or re-establish control over their body (Fisher,

2002; McCormack- Brown *et al.*, 2000). More than a simple fashion accessory, body modification might represent for many adolescents a contemporary way of expressing their struggle against a variety of internal and social forces experienced as alien or imposed.

Given the paucity of data on the scope and evolution of these practices in general adolescent populations, more research is necessary before it can be assumed that body modification is now part of the mainstream culture of youth. To this effect, as some studies pertaining to social norms have shown, accurate information regarding peer expectations and practices is important because widely held misperceptions (i.e. exaggeration of peers' norms) may encourage risky behaviour in a misguided attempt to conform to perceived norms (Gascoigne, 2001; Perkins & Wechsler, 1996). Students, in order to become an accepted member of the group, may be tempted to model the behaviour of peers who they perceive as looking “cool” but who may also be involved in high-risk activities.

Moreover, given the strong and specific association observed between body modification practices and externalized risk-taking behaviours, future research might examine if some individual and contextual factors associated with externalized behaviours are also associated with tattoos and body piercing. Among the individual factors to consider is the sensation-seeking trait which has been linked to various “externalized” behaviours such as drug use (Crawford, Pentz, Chou, Li, & Dwyer, 2003), gambling (Nower, Derevensky, & Gupta, 2004) and aggressiveness (Joireman, Anderson, & Strathman, 2003). The sensation seekers can be characterized by the willingness to take physical and social risks for the sake of unusual and intense experiences (Zuckerman, 1979). This trait might be one of the specific drives that lead adolescents to adopt body modification.

The associations reported in the literature, some of which observed in the present survey too, highlight a dangerous attitude which requires

immediate intervention. Specific educational programs should be implemented to reduce the negative effects of those risk-taking behaviours. Risk reduction messages should consistently focus on these behaviours as they seem to be associated to substance abuse. Practitioners should be alerted to the possibility of risk-taking behaviours in tattooed adolescents, and activate preventive measures accordingly. Proactive health education, moreover regarding maternal/fetal risks related to tattooing during pregnancy, is also needed. The character or the personality of an individual as perceived by others is in continuous negotiation through social interaction. For some participants, their skin art was an attempt to portray a particular image.

Body art carries health risk problems, especially when tattooing is practiced without adequate precautions, and/or is conducted by an unauthorized artist. The prevalence of students who do not consider this act as a potential cause of infections and diseases was too high. Students, in fact, believe that body art can provoke local infections more than diseases, and this conclusion represents a faulty reasoning due to lack of correct knowledge.

Students, parents and health officials should be alerted to the need for continuing education on these matters. Body art should be considered, in fact, a risk behaviour warranting health education.

Because of the growth of such practices, information should be accompanied by a specific campaign of monitoring those young adults who have already performed a body art. The validation of body art practice among young

adults requires a more effective effort in two directions: medical education and information based campaigns.

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