

Examining personality differences between tattooed and non tattooed individuals:

The Big Five, Need for Uniqueness and General attitudes towards tattoos.

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To all the truly magnificent women in my life, thank you for constantly supporting, inspiring and motivating me.

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Abstract

This study examined differences between tattooed and non-tattooed individuals on personality traits, need for uniqueness and general attitudes towards tattoos. A sample of 336 individuals completed a survey consisting of measures of the Big Five personality factors, Need for Uniqueness, General Attitudes towards Tattoos, tattoo possession and demographics. Preliminary analyses showed that 46.29% of the total sample possessed at least one tattoo. Further analyses showed that there were few statistically significant differences between tattooed and non tattooed participants. Tattooed participants held higher scores on levels of Neuroticism and held more positive attitudes towards tattoos than non tattooed participants. Results also revealed a difference in attitudes towards tattoos across age groups, with younger age groups demonstrating more positive attitudes towards tattoos than older age groups. These results are considered in relation to the contemporary prevalence of tattoos in socioeconomically developed societies.

1.Introduction

1.1 A brief history of tattoos

Humans have marked their bodies with tattoos for thousands of years. These permanent designs have served as many different things in many different cultures- amulets, status symbols, declarations of love, signs of religious beliefs, adornments and as forms of punishment (Lineberry, 2007). The word tattoo comes from the Tahitian word “tatau” which means to mark something. The earliest forms of tattoos can be dated back to 3000 B.C proven by the discovery of “Otzi” the Ice Man in 1991. He was discovered to have stripes tattooed on his lower back, ankle and a cross behind his left knee (Wilson,1985). In 1891 discoveries were made of a female mummy “Amnulet” which had geometric patterns tattooed about her body, which were thought to be associated with religious practice. British explorer Captain Cook introduced tattooing to England and the US. In the 18th Century Cook brought Tahitian, Omai people to England as a display which led to an increase in aristocrats and royalty embracing tattoos in Victorian times. Cook studied the significance of tattoos in Polynesian culture. The location of a tattoo on an individuals body and the specific design of the tattoo displayed social, hierarchal and genealogical information about the owner of the tattoo (Tassie, 2003). It was uncommon to find a Polynesian who did not possess a tattoo, and many of Captain Cooks men left their voyage with a permanent memento of the voyage. All over the world evidence of tattoos has been found, indicating that it has been a universal trend (DeMello, 2000). The art of tattooing may have an incredibly long history among many cultural groups, but the growth of its popularity and

acceptance in Western, industrialised societies since the early 1990s has been particularly dramatic (Caplan, 2000; Swami & Harris,2011).

1.2 Implicit bias surrounding tattoos

Implicit bias refers to attitudes or stereotypes that affect our understanding, actions and decisions in an unconscious manner (Greenwald and Krieger, 2006). These biases which can encompass both favourable and unfavourable assessments are activated involuntarily and without an individuals awareness or control. One theory of tattoos is their use in group affiliation (Wohlrab et al,2009). Tattoos have historically been associated with groups such as sailors, soldiers, gang members, prisoners and bikers (DeMello, 2000). Groups like these have stereotypically been associated with negative behaviours and deviance (Koch, Roberts, Armstrong and Donna,2010). Which may be the root cause of the proposed subconscious bias that can surround tattoos. Most of the previous bodies of work held on bias surrounding tattoos have been held on explicit attitudes (i.e a self reported attitude in which the perceiver is consciously aware (Zestcott et al., 2017)). Despite the prevalence of tattoos and their steady increase in the past decade (Shannon-Missal,2016),perceptions of tattooed individuals have remained negative. Research has shown by the age of 6, children have acquired strong negative stereotypes of persons with tattoos (Durkin, 2000). Presence of tattoos has been found to affect attitudes in the workplace with pragmatic implications for a range of life outcomes including employment, professional success and health care (Zestcott et al., 2017). Up until April 2015 possession of a tattoo could disqualify a person from becoming a police officer and joining the military in the United States (Before Joining the Military, 2018). In relation to health care, multiple studies have been held on the perception of professional nurses with visible tattoos (e.g Westerfield et al., 2012;Wiseman, 2010).

This research has shown that older adults are more likely to negatively evaluate nurses with tattoos than young adults. These studies also revealed that although male nurses were not perceived any differently with/without tattoos, female nurses with tattoos were perceived to be less kind and less trustworthy than female nurses without tattoos (Boultinghouse, 2015). Studies held on bias surrounding tattoos have generally centred around tattoos in white collar work environments (Dean 2010). Surveys of human resource managers and recruiters have previously reported that job applicants with visible tattoos are less likely to be hired (Swanger, 2006). However in poll held recently by Irish Recruitment agency Matrix Recruitment on 200 HR managers, it was reported that 57.4% of managers would not have a problem with their employees possessing a tattoo, showing that the stigma attached to tattoos in the work environment could be subsiding as the population of tattooed individuals entering the work place rises. Regardless of employers position on acceptance of tattoos in the work place, the public's perception of professionals with tattoos remains predominately negative. In a recent study examining age related differences on tattoos it was found that three different age groups (18-28, 29- 48, 49 and older) thought that visible tattoos on financial service workers, e.g. an accountant, were “very inappropriate” (Dean, 2010).

1.3 Need for Uniqueness

The quality of being one of a kind, a singularity that separates you from others is considered to be unique. Growing evidence suggest that some individuals use tattoos as a means of self expression or to construct identities by drawing attention to the body (Armstrong et al.,2004). Thus, recent work by Tiggemann and colleagues (Tiggemann & Golder, 2006;Tiggemann & Hopkins, 2011) have highlighted tattoos as a means of achieving or accentuating self-perceived uniqueness in the appearance domain. It is a common human

trait to desire to appear special and different from others- to feel unique. The Uniqueness theory (Snyder & Fromkin, 1980) deals with people's emotional and behavioural reactions to information about their similarity to others. According to the theory, people find high levels of similarity and dissimilarity unpleasant, and therefore seek to be moderately distinct from others. According to the uniqueness theory, people seek to avoid the unpleasant affect associated with extreme similarity and dissimilarity by striving to maintain moderate levels of self-distinctiveness. This means that as people perceive more similarity between themselves and others, they become motivated to establish their dissimilarity or uniqueness. Corroborating evidence comes from a prospective study shows that obtaining a first tattoo resulted in significantly higher self-perceptions of uniqueness immediately after the tattoo was completed and three weeks later (Swami, 2011). This corroborates with previous studies showing a reliable association between Need for Uniqueness and tattoo possession (Tiggemann & Golder, 2006; Tiggemann & Hopkins, 2011). Although the need for uniqueness scale that was created from this theory is a useful tool to measure individuality, Lynn & Harris (1997) criticised it for placing too much emphasis on both public and socially risky demonstrations of uniqueness. Lynn & Harris created the SANU (self attributed need for uniqueness) scale so it could be used to measure the tendency to express uniqueness in a more socially acceptable way than the original NU scale. The present study will expand on previous research that shows association between an individual's need for uniqueness and tattoo possession, and will delve further by examining individuals with visible tattoos need for uniqueness against individuals who's tattoos aren't visible.

1.4 Prevalence of tattoos

In a poll carried out by Harris Research Centre in 2015, 47% of Americans aged 18-29 reported to possessing at least one tattoo. The poll reported that 1 in 5 American adults now possess a tattoo (21%) which is up from the 16% and 14% respectively who reported having a tattoo when the poll was held in 2003 and 2008. This research highlights the opinion that tattoos are quickly becoming a large part of what is considered to be mainstream culture. That being said, most (over 70%) of tattooed individuals reported that their tattoos were not visible to others (Pew Research Centre, 2010). This statistic of an individual's tendency to conceal tattoos could show that despite the widespread prevalence of tattoos, the negative stigma attached to them could still have a large factor in an individual's decision making when choosing to get a tattoo. The media has had a large part in altering opinions surrounding tattoos over the past decade by portraying body art in a positive light. Music videos, films and TV shows have helped create a more socially acceptable meaning for tattoos among the middle class. According to the poll, generational differences in the adoption of tattoos have persisted with Millennials (age 18 to 35) at 47% with one or more tattoos, Generation X (age 36 to 50) at 36%, Baby Boomers at 13%, and those older (age 70+) at 10%. For the first time, women have surpassed men in the adoption of tattoos (31% vs. 27% in men). The rising popularity of tattoos among young to middle aged individuals suggests that tattoos may hold different significance sociologically, biologically, and socially than they have throughout the previous century (Wohlrab et al., 2005). Indeed, the contemporary mainstreaming of tattooing is notable because it appears to transcend traditional boundaries, including gender and socioeconomic status (e.g., DeMello, 2000; Forbes, 2001). The motivations behind acquiring a tattoo vary between generations and

culture. In New Guinea, a swirl of tattoos on a Tofi woman's face indicates her family lineage. In Cambodia, monks tattoo their chests to reflect their religious beliefs. It is common for gang members to tattoo themselves to describe their street affiliation. Evidently there is a growing chasm in Western culture, where tattoos are growing in popularity amongst a much wider variety of individuals and yet still fall victim to the negative stereotypes which result in very real discrimination.

Research has not found one conclusive factor that significantly predicts the choice to get a tattoo, and the research on examining the motivations for obtaining tattoos is limited (e.g. Benson, 2000; Sweetman, 1999). It has been hypothesised that a growing motivational factor behind possessing a tattoo is fashion, rather than an expression of self-identity or for sentimental/meaningful purposes (Wohlrab, Stahl and Kappeler, 2007). In her book "Bodies of Inscription: A Cultural History of the Modern Tattoo" DeMello (2000) posed the question: does the middle class embrace signal a genuine acceptance of otherness; or is it just another instance of the all-too-familiar process in which a deviant art form (like jazz, rock and roll, or graffiti) is celebrated as *outré* and chic because of its non mainstream roots at the literal expense of its actual originators and practitioners? This theory of tattooing is in stark contrast with earlier findings which related tattoos to group affiliation and illustrates again the growing chasm between traditional opinions on tattooed individuals and the reality of those with tattoos today, highlighting again the need for more research on the topic.

There has been no published research held so far on the prevalence of tattoos amongst the Irish population, the bulk of previous research has been held on an American population (e.g. Armstrong et al., 2004; Forbes, 2001). A notable study that was carried out on a predominantly German sample was that of Viren-Swami et al. (2012) which examined

Personality Differences Between Tattooed and Non Tattooed Individuals this study found that tattooed individuals scored higher on levels of extraversion than none tattooed individuals. This study also found that tattooed individuals displayed a higher need for uniqueness than non tattooed individuals.

1.5 The Big Five

The Big Five tests an individuals levels of Openness, Conscientiousness, Extraversion, Agreeableness and Neuroticism. Openness (to Experience) is the personality trait of seeking new experience and following intellectual pursuits. High scorers tend to be more imaginative, curious and excitable, however high openness can often be perceived as unpredictability and can tend to be more likely to engage in risk-taking behaviours like drug taking (Ambridge,2014). Previous literature has reported significant association of tattoo possession with a range of risk-taking behaviours like use of illegal substances (Carroll et.,al 2002) and gang affiliation (Roberts & Ryan 2002). However there has been no previous literature on the association between the character trait of openness, tattoo possession and risk taking behaviour. This study aims to fill in the gaps in this literature. Conscientiousness is the personality trait of being honest and hard working, high scorers tend to be more organised , efficient and self-disciplined and low scores are associated with flexibility and spontaneity but can also be received as a lack of reliability. Extraversion is the personality trait of seeking fulfilment from sources outside the self or in community, high scorers tend to be more sociable, outgoing and energetic, low scores are associated with a more reserved self reflective personality. Agreeableness reflects how much individuals adjust their behaviours to suit others, high scorers tend to be forgiving, modest and sympathetic, low scores can be associated with argumentativeness or

untrustworthiness. Neuroticism is the personality trait of being emotional, high scorers tend to be anxious, irritable and depressed, it has been researched that individuals with higher levels of test neuroticism tend to have worse psychological well being (Dwan and Ownsworth, 2017). In previous research held on differences in personality between tattooed and non tattooed individuals when tested on the Big Five personality traits, tattooed individuals have shown significantly higher scores on extraversion than non-tattooed individuals (e.g: Swami et al., 2012; Wohlrab, et al., 2007) Although some studies report that tattooed individuals score higher than non-tattooed individuals on measures of extraversion and related traits, such as sensation seeking (e.g Copes & Forsyth,1993) other studies have returned non-significant findings (e.g Forbes, 2001; Tate & Shelton, 2008). In a similar vein, some researchers have reported that tattooed individuals have lower scores on measures on conscientiousness and agreeableness (Tate & Shelton, 2008), but the latter association has not been found in at least one further study (Swami, 2012). Very little research has been held on tattooed individuals scores of neuroticism, in the minimal research that has been held on this personality trait and its relationship to tattoo possession, its been reported that tattooed individuals scored lower on levels of neuroticism than non tattooed individuals.(Wohlrab, 2007;Officer and Officer, 2018).

1.6 General Attitudes Towards Tattoos

Beginning in the late 1960s popular attitudes toward tattooing began to change (Sanders,1984). As popular characters like rock stars, actors and athletes publicly displayed their body modifications, tattooists became “artists” and efforts were made to legitimise their creations as art forms (Forbes, 2001). The present study will also be investigating

general attitudes towards tattoos between tattooed and non-tattooed individuals and also investigating age related differences in attitudes towards tattoos.

Stigma refers to the socially-constructed relationship between a socially undesirable attribute and a stereotype (Goffman, 1963). The negative stereotypes held by the general public about a stigmatised group that inform negative feelings and prejudicial behaviour towards that group are greater when the stigmatised person can be held responsible for his situation (this is considered a controllable stigma), such as in the case of smokers who have lung cancer (Reeder & Pryor, 2008). Because tattoos are a controllable stigma, they also represent a choice made by the tattooed person rather than an unavoidable, inherited attribute, which may help legitimise the public's negative perceptions (Larsen, Patterson, & Markham, 2014). Previous studies held on general attitudes towards tattoos have shown that tattooed individuals have a more positive attitude towards tattoos than non-tattooed individuals (Swami et al., 2012). However there has been research that has shown that the stigmatisation surrounding tattoos is not limited strictly to the un-tattooed. Studies have shown tattooed individuals can harbour explicit (Shannon-Massal, 2016) and/or implicit (Zestcott et al., 2017) attitudes towards other tattooed individuals. These attitudes can form over the size, visibility or location of the tattoo, or if the tattoo is deemed too "trendy" or unoriginal. Past research on these attitudes have centred on the presence of tattoos on a persons neck (Zestcott et al., 2017), which may have affected the literature as previous work has shown that tattoos on the hands and neck represent a significant relationship with criminal gang affiliation (Etter, 1999). Research on the perception of individuals with tattoos is minimal, however, the little research available suggests that the presence of a tattoo is often associated with the attribution of negative characteristics such as drug

addiction and criminality (Durkin & Houghton 2000). Irrespective of a person's actual criminality, wearing tattoos may render him or her vulnerable to the negative expectations of others (Stuppy, Armstrong, & Casals-Ariet, 1998).

Popularity and opinion surrounding tattoo possession does tend to fluctuate given the different trends between generations, however, with tattoos becoming more prevalent in society the results of the present study may not reflect previous studies. Studies on age related differences in opinions amongst tattoos are also scarce. Previous studies (as mentioned above) have centred on customer perceptions of professionals with tattoos in a work place environment (Dean,2001) in which all age groups found tattoos to be unacceptable. With reports stating that 47% of Millennials possess at least 1 tattoo, the assumption is that younger age groups would have more positive attitudes towards tattoos. As there is little to no previous research held on this, the present study hopes to fill in the gaps on this topic in research.

1.7 Previous research held on tattoos

With the number of tattooed individuals growing steadily with time, scholarly interest in the psychology of tattooing is also growing. The largest body of research has focused on behavioural and individual differences between tattooed and non-tattooed respondents.(Swami et.,al). Majority of the reasoning behind these studies is that the planning, permanence and pain involved in tattooing may reflect real-world differences between tattooed and non-tattooed individuals (Tate & Shelton, 2008) Although the bulk of research held on tattoos has focused on behavioural differences, the majority of the literature surrounding this topic is based on the negative associations that are connected to possessing a tattoo. For example some research has found that tattoo possession is

significantly associated with being sexually active at a younger age (Koch, Roberts, Armstrong & Owen, 2005). There has also been several studies held on tattoo possession and its association with risk-taking behaviour (Carroll, et al., 2002; Brooks, Woods, Knight, & Shrier, 2003) and it has been hypothesised that tattooing and body piercing represent a specific example of behaviour that has multiple possible clinical interpretations related to risk taking (Roberti and Storch, 2005). A substantial amount of research examining the relationship between tattoos and risk-taking behaviour have circulated around substance-abuse (Armstrong & Pace Murphy, 1997; Roberts & Ryan, 2002) gang affiliation, sexual involvement, and some learning difficulties (Roberts & Ryan, 2002). Although research into tattoo possession has begun to grow rapidly, a number of limitations still affect this literature. A lot of previous research has centred on the perception of tattooed women solely. These studies have shown that women with tattoos are perceived more negatively. Most of the previous research held on tattoos has relied on a college and university sample, who may not be representative of the wider population, particularly in terms of their socio-demographics. There have also been little to no studies that have tried to examine a universal sample. Most studies have focused on American or an Australian sample (Zestcott et al., 2017; Forbes 2001; Heywood 2012). There has been no previous professional studies held on prevalence of tattoos in Ireland. To overcome the limitations mentioned above, the present study will aim to extend outside of a college sample in an effort to examine a more diverse sample than previous studies.

1.8 Rationale for the proposed research

Although the prevalence of tattoos has risen steeply over the past decade (Shanon-Missal,2016), perceptions of tattooed individuals remain negative. The professional literature that surrounds tattoos, and individuals with tattoos, is scarce and the literature that is available to us further stereotypes people with tattoos. It is important to extend on past research with a view to eradicating the negative stigma that surrounds tattoos and individuals who possess them.

Nearly all research found on these topics have been carried out on a young sample- normally college students. Brown and Stayman (1992) outline that, because students are very homogenous and convenient asa sample for data collection, they are used quite often in studies regarding personality. This study will use a wider demographic in order to test universal application of the hypothesis and to see if, when tested on adults, the outcomes of the theories still prove true.

1.9 Hypotheses

1. It is hypothesised that individuals that possess a tattoo will show higher levels of extraversion than individuals who do not possess a tattoo.
2. It is hypothesised that individuals that possess a tattoo will show higher levels of openness than individuals who do not possess a tattoo.
3. It is hypothesised that individuals that possess a tattoo will show higher levels of Self Attributed Need for Uniqueness than individuals who do not possess a tattoo.
4. It is hypothesised that there will be significant differences in general attitudes towards tattoos across the age groups. It is hypothesised that the younger group will have a more positive attitude towards tattoos.
5. It is hypothesised that tattooed individuals will have a more positive attitude towards tattoos than non tattooed individuals.

2. Methodology

2.1 Participants

The present study attempted to target as many tattooed individuals as un-tattooed participants. The inclusion criteria required participants to be over 18. In all, 337 individuals (64.1% women; age $M=31.4$ yr., $SD=12.8$, 35.9% men; age $M=31.48$ $SD=12.69$) participated in the present study.

2.2 Design

This study employed a between subjects correlational design with a cross-sectional quantitative survey using convenient sampling, to measure personality traits, need for uniqueness and general attitudes towards tattoos as the continuous criterion and age and tattoo possession as predictor variables.

2.3 Materials

An online questionnaire was compiled that included the following instruments to measure the criterion and predictor variables (See Appendix)

Demographics- Participants were asked to provide basic demographic information such as gender and age. Age of participants was later recoded into three groups to be tested. Group 1: 18-25, Group 2: 26-40 and Group 3: 41+. Participants were asked if they had tattoo. When

they reported to having one or more tattoos, participants were asked if tattoos were visible most/all of the time.

Big Five Factors of Personality- The Big-Five Inventory (BFI) (John, O. P., & Srivastava, S. 1999) was used in order to assess the Five Big Factors of personality. The scale comprises five sub scales (Extraversion, Agreeableness, Conscientiousness, Neuroticism and Openness to Experience) and requires participants to indicate how much they agree with each of the 50 statements using a 5 point scale with anchors 1= Disagree and 5= Agree. This scale was chosen because it has been shown that the domain it measures remain stable over time and that it possesses considerable reliability and validity. (Pervin & Cervone, 2010). This inventory is comprehensive in its data collection. However, researchers may be faced with time restraints effecting the extent of the research.

Need for Uniqueness- Participant's need to differentiate themselves from others was measure using the Self Attributed Need for Uniqueness scale (SANU; Lynn & Harris, 1997). Based off of the Need for Uniqueness scale (Snyder & Fromkin, 1980). According to Lalot et al.,(2017) the Self Attributed Need for Uniqueness scale has good internal consistency was alpha coefficient reported of .85. In the current study the alpha coefficient was .8. For this scale participants were asked to indicate their agreement on each of the 4 items using a 5 point scale with anchors 1: Strongly disagree and 5: Strongly Agree.

General Attitudes towards Tattoos- Participants were asked to rate their general attitudes towards tattoos based on a semantic differential comprising eight pairs of characteristics on a 7-point scale with the first word of each item reflecting a more positive attitude towards

tattoos (beautiful vs ugly, unique vs common, status symbol vs stigmatisation, conformant vs rebellious , socially acceptable vs socially unacceptable, good vs bad, makes sense vs doesn't make sense, not aggressive vs aggressive). An overall score was achieved by calculating the mean of all 8 items with lower scores reflecting more positive attitudes towards tattoos and higher scores reflecting more negative attitudes towards tattoos. In the current study the alpha coefficient for this scale was .81.

Procedure- Prior to collecting data, a proposal of the study was submitted to the Department of Psychology, Dublin Business School to be approved. Upon approval forms were uploaded onto social media sites Facebook and Instagram via Google Forms. Participants were accessed online through use of social media sites (Facebook and Instagram) and through use of snowball effect. Questionnaires were administered through Google Forms. . The survey results began indicating that a much larger amount of non tattooed participants were partaking in the questionnaire. In an effort to attain a more balanced representation of opinions, tattooed participants only were asked to complete the questionnaire for a small period of time. A cover sheet was attached to the survey debriefing participants on the study. Participants were informed of the confidentiality of the survey ensuring no identifiable information can be attributed to responses. Participants were notified that participation was voluntary and that participants had to be aged 18 and over.

Ethical considerations- Ethical approval for this research was obtained from Dublin Business School ethics review board. Research was conducted in accordance with Dublin Business School's ethical guidelines for research with human participants.

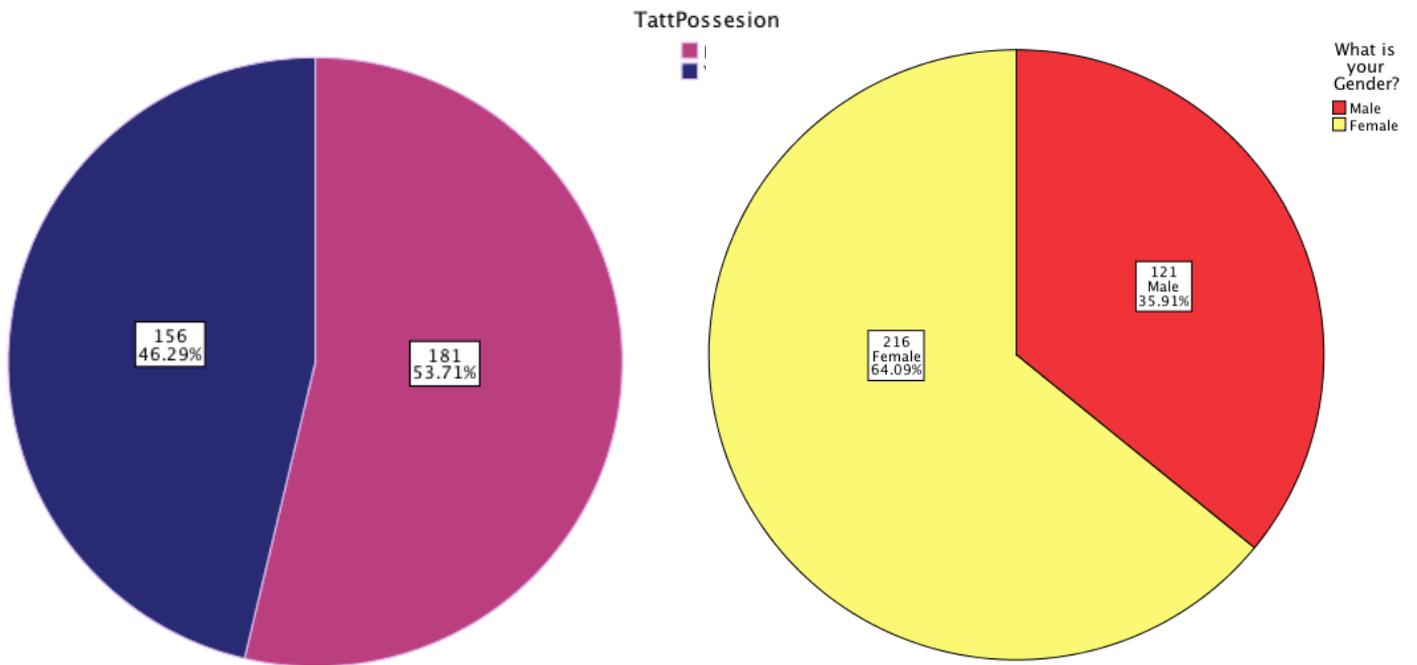
3.Results

SPSS version 24 was used for all statistical procedures. After all preliminary analyses were undertaken descriptive and correlational analyses were conducted to gain insight into the relationship between the predictor and criterion variables. Independent-samples t-test were performed to determine the mean differences of the personality variables and tattoo possession, and need for uniqueness and tattoo possession. An ANOVA was performed to assess any mean differences in general attitudes towards tattoos across three age groups. Preliminary analysis were run on the data to ensure that there was no violation of the assumptions.

3.1 Descriptive Statistics

The sample comprised of 337 participants, 216 females (64.1%) and 121 males (35.9%) 181 reported having no tattoos (53.71%), 145 reported having at least one tattoo (46.29%).

Table 1.1 Pie Charts displaying gender and tattoo demographics



Variables	Mean	Median	Mode	Standard Deviation
Extroversion	5.31	6	12	7.40
Agreeableness	17.16	18	19	5.44
Conscientiousness	6.22	6	3	6.47
Neuroticism	-17.62	-17	-15	7.95
Openess	20.32	20	24	5.74
Uniquene	1.75	1.75	2	0.75
ss				
Attitudes Toward Tattoos	3.64	3.5	3.38	0.87

1.2 Descriptive statistics across variables

3.2 Independent T-Test

An independent-samples t-test was conducted to compare The Big Five personality scores for tattooed and non tattooed participants. There was no significant difference in Extroversion scores for Non Tattooed ($M= 5.57, SD= 7.07$) and Tattooed Participants ($M=5, SD= 7.78; t(335)= .710, p= .48$ two tailed). The magnitude of the differences in the means(mean difference= $.57, 95\% CI: -1.01$ to 2.17) was very small ($\eta^2 = .001$). Therefore the null hypothesis can be accepted.

There was no significant difference in Openness scores for Non Tattooed ($M= 20.33, SD= 5.61$) and Tattooed Participants ($M=20.3, SD= 5.59; t(335)= .067, p=.98$ two tailed). The magnitude of the difference in the means (mean difference= $.042, 95\% CI: -1.19$ to 1.28) was large ($\eta^2 = 1.33$) Therefore the null hypothesis can be accepted.

There was no significant difference in Agreeableness scores for non tattooed ($M= 17.45, SD=4.93$) and Tattooed participants ($M=16.83, SD= 5.98; t(335)= .103, p=.302$ two tailed). The magnitude of the difference in the means (mean difference = $.614, 95\% CI: -.57$ to 1.8) was very large ($\eta^2 = 3.16$)

There was no significant difference in Conscientiousness scores for non tattooed($M= 6.45, SD= 6.344$) and Tattooed participants ($M=5.94, SD= 6.62; t(335)= .722, p=.471$ two tailed). The magnitude of the difference in means (mean difference= $.518, 95\% CI: -.881$ to 1.908) was large ($\eta^2 = 1.55$)

There was a significant difference in Neuroticism scores for non tattooed ($M= -16.76, SD= 7.98$) and Tattooed participants ($M=-18.62, SD= 7.82; t(335)= .215, p=.033$ two tailed) The magnitude of the difference in means (mean difference = $1.85, 95\% CI: .154$ to 3.551) was small ($eta\ squared=.013$) An analysis of the Means indicates higher levels of neuroticism for participants with tattoos than those without them.

1.3 An independent samples T-test displaying the mean differences in Neuroticism scores for tattooed and non tattooed individuals

Variables	Mean	SD	t	df	p
Neuroticism scores	-18.62	7.82	2.419	335	0.033
Tattooed					
Neuroticism scores Not	-16.62	7.98	2.146	329.562	0.032
Tattooed					

An independent-samples t-test was conducted to compare Self Attributed Need for Uniqueness scores for tattooed and non tattooed participants. There was no significant difference in SANU scores for Non Tattooed ($M=1.74, SD=.704$) and Tattooed participants ($M=1.76, SD=.807; t(335)= -.181, p=.86$ two tailed) The magnitude of the difference in means (mean difference= $-.015, 95\% CI: -.177$ to $.147$) was large ($eta\ squared=1.01$)

Similarly there was no significant differences between individuals who had visible tattoos SANU scores ($M=1.76, SD=.930$) and does who did not have visible tattoos ($M=1.75, SD=.718; t(335)= -.151, p=.880$ two tailed) Therefore the null hypothesis can be accepted.

An independent-samples t-test was conducted to compare General Attitudes towards tattoos between tattooed participants and non tattooed participants. With low scores reflecting more positive attitudes towards tattoos, and high scores reflecting more negative attitudes towards tattoos. There was a significant difference in attitudes for Non Tattooed ($M=3.90, SD=.87$) and Tattooed participants ($M= 3.33, SD= .756; t(335)= 6.41, p=.00$ two tailed) The magnitude of the difference in means, (mean difference= $.572, 95\% CI: .397$ to $.748$) was large ($\eta^2=.109$) Therefore the null hypothesis can be rejected.

1.4 An Independent samples t-test displaying mean differences in general attitudes towards for tattooed individuals and non tattooed individuals

Variables	Mean	SD	t	df	p
General Attitudes-Tattooed	3.33	0.756	6.41	335	0.00
General Attitudes-Not Tattooed	3.9	0.868	6.47	334.97	0.00

An independent samples t-test was conducted to compare scores for Neuroticism between males and females. There was a significant difference in scores for Males ($M = -15.09$, $SD = 7.85$) and Females ($M = -19.04$, $SD = 7.66$; $t(335) = 4.49$, $p = .00$ two tailed).

3.3 One Way Analysis of Variance

A one way between-groups analysis of variance was conducted to explore the impact of age on general attitudes towards tattoos. Participants were divided into three groups according to their age (Group 1: 18-25yrs; Group 2: 26-40yrs; Group 3: 41yrs and above) With low scores reflecting more positive attitudes towards tattoos, and high scores reflecting more negative attitudes towards tattoos. There was a statistically significant difference at the $p < .05$ level in general attitude scores for the three age groups : $F(2, 334) = 17.7$, $p = .00$. Despite reaching statistical significance, the actual difference in mean scores between the groups was quite small. The effect size, calculated using eta squared, was .01. Post-hoc comparisons using the Turkey HSD test indicated that the mean score for Group 1 ($M = 3.48$, $SD = .792$) was significantly different from Group 2 ($M = 3.5$, $SD = .814$) and significantly different from Group 3 ($M = 4.13$, $SD = .89$)

1.5 One way analysis of variance displaying mean differences in attitudes towards tattoos across age groups

	Sum of Squares	df	Mean Square	F	Sig
Between Groups	25.200	2	12.6	18.575	0.00
Within Groups	226.565	334	0.678		
Total	251.765	336			

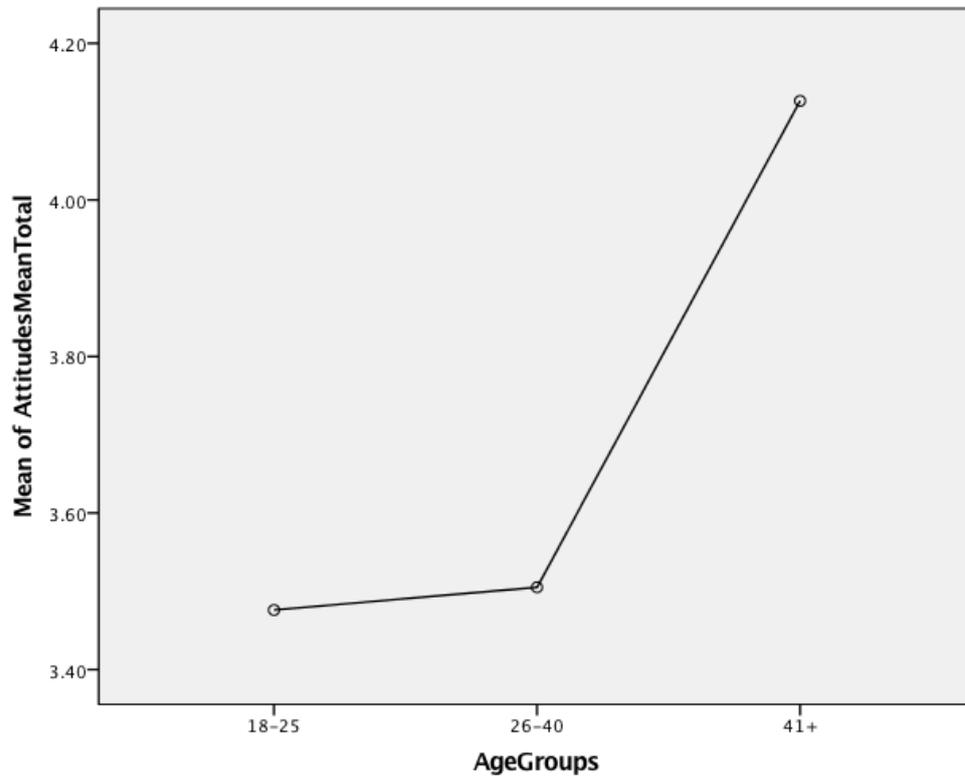
The results of this ANOVA showed that age group 1 displayed the most positive attitudes towards tattoos, age group 2 displayed slightly less positive attitudes towards tattoos and age group 3 displayed the least positive attitudes towards tattoos. Therefore the null hypothesis can be rejected.

1.6 Descriptive statistics across age groups

Variables	N	Mean	SD
18-25	183	3.48	0.792
26-40	74	3.51	0.814
41+	80	4.13	0.899

1.7 Means plots displaying mean of attitudes across age groups- lower scores representing

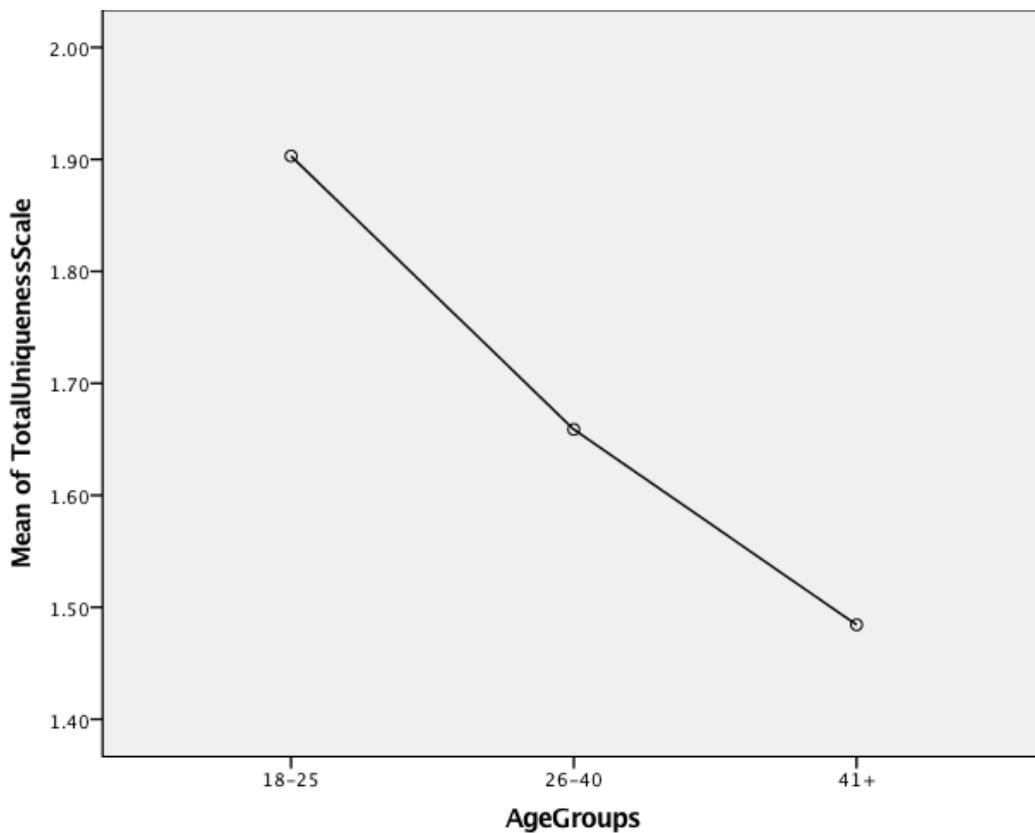
a more
positive
attitude
towards
tattoos.



A one way analysis of the means was conducted to explore the impact of age on Need for Uniqueness. Participants were divided into three groups according to their age (Group 1: 18-25yrs; Group 2: 26-40yrs; Group 3: 41yrs and above) There was a statistically significant difference at the $p < .05$ level in general attitude scores for the three age groups: $F(2,334)=9.146, p=.00$. The differences in means between the groups was relatively large. The effect size, calculated use eta squared was, .09. Post-hoc comparisons using the Tukey HSD test

indicated that the mean score for Group 1 ($M=1.9$, $SD=.696$) was statistically different from Group 2 ($M=1.65$, $SD=.791$) and significantly different from Group 3 ($M=1.48$, $SD=.763$). The results of this ANOVA showed that Age Group 1 held higher scores in Need for Uniqueness, Age Group 2 showed significantly lower scores than Age Group 1 and Age Group 3 showed the lowest need for uniqueness out of all groups.

1.8 A means plot displaying means of Need for Uniqueness scores across age groups



4. Discussion

Very little research has been conducted measuring the effect of tattoo possession on personality traits. The aim of the current study was to examine the differences in personality traits, need for uniqueness and general attitudes towards tattoos between tattooed and non tattooed individuals. The present study was influenced by the recent research piece: Personality Differences Between Tattooed and Non Tattooed Individuals by Viren Swami et al 2012. Aside from this study, there is a paucity of research which examines the relationship between personality traits, need for uniqueness and general attitudes towards tattoos and tattoo possession. The present results showed that there were few statistically significant differences between tattooed and non tattooed individuals in terms of their personality and individual difference traits. Specifically those tattooed had significantly higher scores than non-tattooed individuals on Neuroticism. In addition, compared with non-tattooed individuals, tattooed participants also had significantly more positive Attitudes Toward Tattoos. Younger age groups showed more positive attitudes towards tattoos than older age groups. These results are discussed in greater detail below.

It was hypothesised that there would be a difference in scores of extraversion between tattooed and non tattooed individuals as previous research has shown tattooed individuals scored higher on extraversion than non tattooed individuals. (e.g., Swami et. al; Wohlrab et al 2007). This hypothesis was rejected as there was no statistical significance in extraversion scores between tattooed and non tattooed individuals. This finding supports previous literature where it was also reported that there was no statistical difference in personality

traits between tattooed and non tattooed individuals (Forbes 2001; Tate & Shelton 2008). There was no statistically significant differences between tattooed and non tattooed participants on agreeableness, conscientiousness and openness, which stands in contrast with previous work which found that tattooed individuals showed lower levels of conscientiousness and agreeableness (Tate & Shelton, 2008). Importantly, there was a statistically significant difference in scores of neuroticism between tattooed and non tattooed participants with results revealing that tattooed individuals held higher scores on neuroticism than non tattooed individuals. There is no previous work that reports similar findings so therefore there is no real conclusive evidence as to why the present studies results reported this significant finding. It is possible it could be linked back to cultural differences, as there as been no previous research on the topic held on an Irish sample. It is also possible that it can be linked back to the studies predominately female sample (64%). Results showed a statistically significant difference in Neuroticism scores between the female and male participants, with females scoring higher than males. This corroborates with previous research which reported women scoring higher on Neuroticism than males. (Costa, Terracciano and McCrae, 2001; Goodwin and Gotlib, 2004). Although results suggest individuals with tattoos are not dramatically different from other people, this is now how they are perceived by their peers who do not possess tattoos (Forbes, 2001).

It was hypothesised that there would be a statistically significant difference in scores on the Self Attributed Need for Uniqueness scale. This hypothesis was rejected as the present results showed no statistically significant difference in tattooed participants Self Attributed Need for Uniqueness verses non tattooed participants. These results stand in contrast with previous work that showed that tattooed individuals showed Higher Needs for Uniqueness

than non-tattooed individuals (Swami et al., 2012; Tiggemann & Hopkins, 2011) The present study aimed to extend on previous research by investigating if visibility of tattoos would have effect on need for uniqueness however it was found that there was no statistically significant differences in individuals with visible tattoos Need for Uniqueness vs individuals without visible tattoos Need for Uniqueness. The present study also investigated age related differences in need for uniqueness incase it could have an affect on the results of tattooed individuals need for uniqueness. Results revealed there was a statistically significant difference across age groups in need for uniqueness, however these scores didn't affect the scores of tattooed individuals need for uniqueness. There is a lack of research supporting the hypothesis that younger age groups show a higher need for uniqueness than older age groups.

It was hypothesised that tattooed individuals would have more positive general attitudes towards tattoos than non tattooed individuals. This hypothesis was accepted as the present results showed a statistically significant difference in attitudes towards tattoos between non tattooed and tattooed individuals. The present results do support previous work that reported that tattooed individuals hold a more positive attitude towards tattoos than non tattooed individuals (Swami et al 2012) however this result was not very surprising. However there is some previous research that shows tattooed individuals sometimes harbour negative explicit attitudes towards other tattooed individuals (Shannon-Massal, 2016; Timming, 2015). It was hypothesised that there would be statistically significant differences in attitudes towards tattoos across the age groups. This hypothesis was accepted as present results reported that older age groups (41+) displayed a more negative attitude when it came to tattoos. Age group 1 of emerging adults (18-26) held the most positive attitudes, age

group 2 (26-40) held less of a positive attitude than age group 2, but more of a positive than age group 1. These findings reflect the recent statistics on tattoo prevalence amongst a younger population. With findings reporting 46% of Millennials have at least one tattoo, the general assumption would be that younger generations would hold a more favourable attitude towards tattoos than older generations. The majority of previous work held on tattoos has been based on a college sample (eg. Forde,2001; Tate & Shelton 2008;Broussard and Harton ,2017) Some studies have reported that even though it may be expected that younger people may view tattoos more positively than older people, young people still judge individuals with tattoos negatively. (Broussard and Harton, 2017).

4.1 Limitations

As with all research there are some issues to be found with this study. These limitations and potential for future study will be discussed in this section. The sample size was small considering the statistics of people who are in possession of tattoos in todays society. The age of participants was much more varied than in many previous studies which have tended to rely on a college samples, however there were more participants in their 20's than would have been optimal. Increasing the number of participants over 40 and 50 would be the next step in analysis. As the prevalence of tattoos continues and appears to be beginning at a younger age it is import to study a more digressive age range. There were participants from a range of cultural and socio economic backgrounds within this study. The question of nationality and career was not included in the questionnaire and may have been useful to gain greater understanding of this subject. Nationality was not examined, however due to the questionnaire for this study being shared through the researchers social media, it reached mostly Irish participants which may skew the results due to cultural mores. Therefore we

cannot state with certainty that this study will have universal applications. Replication of this study with participants from a wider variety of countries involved may produce different results. The present study also had a considerable larger amount of female participants(64.1%) than male (35.9%) which may have skewed the results. Especially in personality trait results, as previous research has shown that women score higher in levels of neuroticism and agreeableness.(Costa & McCrae 1992;Goodwin and Gotlib 2004). Pilot studies are important to use when conducting most kinds of research. They are used to test the adequacy of the research materials, identify logistical problems and detect and correct consuming instructions in the procedure (Van Teijlingen & Hundley, 2002). Due to time constraints a pilot study was not held for this research, future research could benefit from using one. Likert scales can be subject to distortions if participants avoid extreme responses or present their opinions in a favourable light. This research was conducted as a self-reporting questionnaire which was shared on social media sites in an effort to access a wider number of participants. Due to the self-reporting nature of the questionnaire, it lessens the reliability of reports. Future studies on attitudes towards tattoos may benefit from an experimental study and in-depth interviews with participants, both tattooed and non-tattooed.

4.2 Conclusion

Based on previous research, this study aimed to examine difference in personality traits and individuals need for uniqueness between tattooed and non tattooed individuals. It also aimed to examine general attitudes towards tattoos. Although this research did not corroborate

with previous research on personality traits and need for uniqueness, it does give a small insight into the general attitudes surrounding tattoos in Ireland in 2018. Showing that they are more positive amongst younger ages than older. This research has shown that the possession of a tattoo does not affect an individual's personality or need for uniqueness. As previous literature has mentioned, even though the prevalence of tattoos shows no signs of slowing down in the foreseeable future, there is serious need for more research to be held surrounding tattoos and the individuals who possess them. Although there were not many significant results, this paper is a welcome addition to the Psychological research pool as there is a definite lack of research held on personality traits and possession of tattoos.

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