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entitled

Differences within the Body Modified Community: Can Certain Personality Traits Predict Location and Motivation?

by

Michelle C. Beddow

Submitted to the Graduate Faculty as partial fulfillment of the requirements for the

Doctor of Philosophy Degree in Psychology

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An Abstract of

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Although once viewed as evidence of deviance, body modifications such as tattoos and non-normative piercings (i.e. piercings other than ear lobes in females) have become more acceptable by the general public. While this topic has been largely ignored by researchers, studies on the area have typically focused on the differences between the body modified and non-modified communities, with most studies focusing on psychopathological differences. Only a handful of studies have focused on personality trait differences between the groups, although those studies have found evidence of several differences. Moreover, little to no research has been conducted on possible differences within the body modified community, leaving a large gap of knowledge in the literature. The goal of the current studies was to begin examining differences within the body modified community. The pilot study focused on differences in personality traits between the body modified and non-modified communities, as well as within the body modified community. The primary study solely focused on differences within the body modified community. This study particularly examined if certain personality traits could predict the following: location of body modifications, motivation for getting these body

modifications, and the reaction others gave regarding these modifications. Furthermore, this study was one of the first to see if there were differences in location, motivation, and reaction for participants' first modification versus their subsequent modifications. Results of the pilot study showed several differences in personality traits between the two communities, as well as differences within the body modified community with regards to location. Results of the primary study demonstrated little support for the hypotheses, however, evidence regarding other trends was found. The explanations and implications for the results of both studies are discussed.

This dissertation is dedicated to all of my teachers, official and unofficial. Without you, I would not be the researcher, questioner, and person I am today.

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Chapter One

Differences within the Body Modified Community: Can Certain Personality Traits Predict Location and Motivation?

Generally when we think of physical characteristics of others, we tend to think of relatively permanent, as well as salient, characteristics like one's age, gender, and race/ethnicity. But there are many other ways we can physically characterize individuals, from natural characteristics such as eye color, facial features, body form, hair color, to non-natural characteristics such as non-normal hair colors (e.g. purple, blue), as well as body modifications. While the term body modification can encompass a number of different modifications, for the purposes of this paper, I want to specifically focus on tattoos and piercings.

First, one of the important things about body modifications, as well as the body modified community, is the negative stigma that is associated with this practice (Larsen, Patterson, & Markham, 2014). Specifics regarding this negative light will be discussed in the next section, however, it is important to illustrate that these practices are not favored by all, and as such might influence whether or not someone chooses to add a body modification, as well as other aspects like location, type, size, color, etc. Because of this negative association, an important point needs to be addressed before we can delve into the literature on body modifications. Both forms of body modification vary in their social acceptability. For example, Western women with pierced earlobes do not face stigma, but men with piercings, and women with piercings in other locations often do (Forbes, 2001). For the purposes of this paper, these forms of body modifications refer to those that are considered non-normative for the bearer's own gender and culture.

With that being said, the overall purpose of this dissertation project was to examine the body modified community to see if there are differences within this community. Specifically, it was thought that differences within this community might be found in regards toward location of body modification, motivation for getting the body modification, and reaction from others. Before these elements are discussed, however, it is first important to outline how members of this community are perceived by others as these perceptions may influence the above factors.

Perceptions of the Tattooed Community

Few studies have examined how tattooed individuals are perceived by others, but the studies that have examined this show a divide in perception. For many years, tattoos were associated with deviance (Larsen et al., 2014), and even recent studies have linked tattoos to other types of stigmas like drug use, criminal behavior, and violence (Dickson, Dukes, Smith, & Strapko, 2014). Recently, however, tattoos have become much more popular, particularly among younger populations (Dickson et al., 2014) and their deviant status is being called into question (Forbes, 2001). Although a definitive percentage of tattooed individuals cannot be found in the literature, it is generally accepted that the prevalence of tattoos among young-to-middle-age adults is around 24% (Laumann & Derick, 2006).

Many Americans have tattoos, even though tattooed people are seen as less intelligent, less attractive, and of a lower class than non-tattooed individuals (Degelman & Price, 2002). Numerous studies have found that tattooed women in particular report considerable amounts of stigma from others (Armstrong, 1991; Hawkes, Senn, & Thorn, 2004; Swami & Furnham, 2007), especially from older individuals in their lives

(Armstrong, 1991), and are perceived as less physically attractive, more sexually promiscuous, and heavier drinkers when compared to women without tattoos (Swami & Furnham, 2007). Nevertheless, perceptions of tattooed individuals are impacted by several factors, such as the number (more tattoos indicates more stigma; Dickson, et al., 2014; Swami & Furnham, 2007), type (cute/contemporary is okay, tribal is bad; Burgess & Clark, 2010), and visibility or salience of the tattoo (the more visible, the more stigma; Burgess & Clark, 2010; Hawkes et al., 2004). Due to this, many tattooed individuals, particularly tattooed women, get tattoos in areas that can be covered with clothing (such as their back; Laumann & Derick, 2006).

This is also why individuals with extremely visible tattoos, such as those on the face, are typically shunned by those in the tattooed community due to the fear of being associated with the facially tattooed individual (Larsen et al., 2014). In this specific case, this is because those with a facial tattoo are often perceived as more "criminal looking", and facial tattoos are associated with the increased chance of a guilty verdict in court case paradigms (Funk & Todorov, 2013). Therefore, even other members of the body modified community do not want to risk any potential association with being seen as a criminal, or worse.

At this point, it may be helpful to underline the possible importance of social identity theory. Although this theory will be discussed more in depth in the motivation section, examples of this theory in action can be seen between the body modified and non-modified communities, as well as within the body modified community. According to social identity theory, the categorization of ourselves and others into different social groups gives us a social identity (Tajfel & Turner, 1979). Once we are categorized into

different groups, we then begin a social comparison process in which we compare our group's standing to other groups' standing. This comparison process, specifically because it is with outgroup members, makes us strive for a positive self-concept. That is, we compete with the other groups in hopes of being viewed more positively than them. Positive regard is easier to achieve in group settings, rather than at the individual level, so members who socially identify with their group want their group to be positively distinctive from the out-groups.

Many view those with body modifications as part of the outgroup, and as such tend to view those with body modifications in a more negative light. Because it is known that people are aware of the stereotypes others have about different groups (Devine, 1989), it is possible that these perceptions may influence various aspects within the modified community, such as location of modification.

However, although general social identity theory could explain this situation, it is more likely that this is a situation where the social identity theory extension of self-categorization theory would actually apply. Self-categorization theory is similar to social identity theory in many ways, however, there are differences. According to self-categorization theory (Turner, Hogg, Oakes, Reicher, & Wetherell, 1987) while we do want to show our identity with our ingroups and our difference from outgroups, context is important and we need to assess fit as well. Two types of fit apply in this case: comparative fit and normative fit (Hornsey, 2008). In comparative fit, we want to find a group that minimizes differences within our group and maximizes differences between groups. An individual with a face tattoo might violate the intragroup difference, in that they might be perceived as too different for the ingroup, and as such are pushed to an

outgroup. In normative fit, we want members of our ingroup to fit with the norms of the group, or the expectations of the group. An individual with a face tattoo might violate these norms as well. Overall, studies have found that being perceived as a stigmatized individual because of a tattoo increases the likelihood that the individual will attempt to conceal that tattoo, either by attempting to cover up the tattoo through clothes or by having it removed (Dickson et al., 2014).

Most negativity, or stigma, associated with tattoos seems to mainly come from those who choose to not get one (Burgess & Clark, 2010). It seems that in this case, social categorization (Tajfel, Billig, Bundy, & Flament, 1971) is playing a role, with tattooed (or soon-to-be-tattooed) individuals perceiving other tattooed individuals as part of the ingroup and non-tattooed individuals seeing tattooed individuals as part of an outgroup. Although non-tattooed participants judged tattooed individuals more negatively, those with a tattoo, or considering a tattoo, did not see a difference between tattooed and non-tattooed individuals (Burgess & Clark, 2010). However, it is uncertain if tattooed individuals view non-tattooed individuals as part of the outgroup.

This does not mean that tattooed individuals never stigmatize other tattooed individuals. Obviously this can happen, such as in the case of facial tattoos (Larsen et al., 2014). Although tattooed individuals may not judge other tattooed individuals more harshly when it comes to obtaining employment (Burgess & Clark, 2010), tattooed individuals may judge other tattooed individuals in other ways, such as the type of tattoo they display, as well as their relation to the tattoo culture overall (Larsen et al., 2014). In other words, tattooed individuals may judge other tattooed individuals in terms of how much they identify with or belong to the tattooed ingroup.

Perceptions of the Pierced Community

Although little research has been conducted on the perceptions of tattooed individuals, even less research has been conducted on the perceptions of those with body piercings. Like tattooed individuals, people with body piercings tend to be associated with "rougher" crowds and as such are associated with risky activities like drug use and heavy drinking (Laumann & Derick, 2006). Similar to tattooed individuals, the majority of people with piercings do not choose to get one while inebriated but rather when they are sober (Forbes, 2001; Laumann & Derick, 2006), although one study noted that about one-third of pierced participants had mentioned that they spent very little time deciding to get a piercing, making this more of an impulse decision for some (Greif, Hewitt, & Armstrong, 1999) but not others (Forbes, 2001). A number of participants in one study mentioned that they let their piercing holes close up either due to a medical reason or out of boredom (Laumann & Derick, 2006). Overall, although there has been some research conducted on the stigmatization of body modifications like tattoos and piercings, more work clearly needs to be done in this area, especially given that at least a quarter of the population engage in tattooing practices (Laumann & Derick, 2006).

Personality Traits and Body Modifications

As mentioned above, little attention has been paid to those with body modifications. This is especially true in terms of any possible relationship between personality traits and body modifications. This is alarming because as Tate and Shelton (2008) state, "those who permanently mark their bodies and experience avoidable pain and stigma may differ along basic personality, mood, or psychopathology dimensions form those who do not choose these experiences" (p. 281). Not surprisingly given the

stigma associated with these body modifications, more attention has been paid to psychopathological elements, such as depression and anxiety, than to general personality traits.

However, a handful of studies have started to examine the relationship between certain personality traits and body modifications. Several studies have looked at measures of the Big Five personality traits and have found that body modified participants showed lower conscientiousness (Tate & Shelton, 2008). Tattooed participants have also showed lower agreeableness (Tate & Shelton, 2008), and higher extraversion (Swami, 2012), whereas pierced participants have shown higher openness to experience (Tate & Shelton, 2008). Some studies have also looked at social desirability, but found no significant differences (Tate & Shelton, 2008).

Not surprisingly, when sensation seeking was examined, those with body modifications displayed higher scores than those without body modifications (Stirn, Hinz, & Brahler, 2006). Furthermore, tattooed participants seem to show a higher need for uniqueness (Swami, 2012; Tate & Shelton, 2008; Tiggemann & Golder, 2006; Tiggemann & Hopkins, 2011) and experience seeking (Swami, 2012) than non-tattooed participants. According to Tiggemann & Golder (2006), a higher need for uniqueness seems to be related to tattoos but not to piercings. Other researchers have found that tattooed individuals are more risk impulsive when it came to health and safety risks (Swami et al., 2016). In terms of aggression, tattooed participants are found to be more verbally aggressive and more reactive rebelliousness, but not proactive rebelliousness, than non-tattooed individuals (Swami et al., 2015).

However, it should be noted that in many cases, these differences are accompanied with small effect sizes. Therefore, it is possible that these differences between people with and without body modifications are actually more negligible than would be expected. This might possibly indicate that those with and without body modifications are actually more similar than different (Swami, 2012; Swami et al., 2012; Swami et al., 2016), which, if true, brings up a question. Are there any personality trait differences between those who are and are not modified? At this point, there are more questions than answers. Therefore, at this stage in the research process of this topic, it is critical to continue to research possible differences between these groups, until a firmer answer can be reached. While some types of personality traits have been examined, there is a long list of traits that have not been examined and as such need to be researched. For example, are there differences in social identity, or even type of identity, within the body modified community? Or are there other traits that might show differences within this community?

Differences within the Body Modified Community

While research does need to continue to examine potential differences between the body modified and non-modified communities, researchers should also look at differences within the body modified community itself. To my knowledge, this focus has been largely ignored by researchers up to this point, with only a handful of studies looking at the reasons why people chose to get their body modifications, which are outlined below. Furthermore, it would appear that no studies at this point have examined personality trait differences within the body modified community. Perhaps there are differences in personality traits within this community such that individuals with a greater

number of body modifications tend to show higher levels of a particular trait. Alternatively, it's possible that certain personality traits might predict one's likelihood of adding a certain type of tattoo, or the location of the body modification. There are numerous approaches that could be taken by researchers in order to look at this under-examined area. A few elements that I see as important have been highlighted below.

Motivation. Besides possible differences in personality traits, one wonders if there are other reasons why some individuals choose to get body modifications. What might motivate people to make this choice? Despite the stereotypes, although many believe that people tend to get body modifications when they are intoxicated, tattoos and piercings are typically chosen when the individual is sober (Forbes, 2001; Laumann & Derick, 2006). Furthermore, any respectable tattoo parlor will refuse to tattoo or pierce an inebriated individual. Therefore, one's decision to have their body modified indicates that this choice is made for a reason other than inebriation.

According to some researchers, the motivations for getting these body modifications tends to fall into about four categories (Antoszewski, Sitek, Fijalkowska, Kasielska, & Kruk-Jeromin, 2010), although some researchers have come up with as many as ten categories (Wohlrab, Stahl, & Kappeler, 2007). However, one could argue that there is some overlap in the ten categories, so I will focus on four main categories: a commemorative symbol, an aesthetic appearance, a mark of individuality, and finally, a marker of group membership.

In terms of a commemorative symbol, some people decide to get pierced or a tattoo in order to remember an event, an individual, or a time in their lives. In fact, some

researchers (Carroll & Anderson, 2002) have found that this reason is typically the more frequent motivation in the decision to get one's body modified.

With regards to the mark's aesthetic appearance, some people choose to get tattoos or piercings simply because they liked how it looked. Some articles have combined motivations of fashion, art, and beauty into this category (Wohlrab et al., 2007). There may not be any underlying motivation for this body modification other than its aesthetic appeal for the individual.

Alternatively, some individuals choose to get body modifications because they yearn to stand out from others, and see the body modification as the means in which they can show their uniqueness from others (Swami, 2011), or in some cases their rebelliousness (Forbes, 2001). Some studies have found that this was the main motivation for participants' choice in getting a body modification, particularly with those who got a tattoo (Antoszewski et al., 2010; Swami, 2011).

Conversely, some individuals choose to get a body modification not because they want to stand out from others, but rather because they want to use the modification in order to show their belonging to a group (Forbes, 2001). This group does not need to be a specific group, such as a sports team, but rather can be a larger group such as one's ethnicity, or gender, or other "group" in which they identify strongly.

This identification seems to be a critical factor, as the majority of studies report that people choose to get body modifications for a variety of reasons that characteristically revolve around identity (Larsen et al., 2014), typically due to self-expression (Forbes, 2001; Greif et al., 1999; Milner & Eichold, 2001), expressions of sexuality, celebration, and as a form of art (Forbes, 2001; Milner & Eichold, 2001).

***Social identity theory*.** This bring us back to the motivation question. Since tattoos and piercings carry a negative connotation with them, why do people still choose to get them? Why are they, in a sense, marking themselves just to show that they identify with a group? Although the body modification research is limited, I believe that the identity aspect is crucial here

Psychologically speaking, socially identifying with a group means that a person is no longer just an individual person, but through the depersonalization of the being as an individual, the person becomes a part of a greater unit. According to Marilynn Brewer, "depersonalization does not mean a loss of individual identity, but rather a change from the personal to the social level of identity, with consequent change in the nature and content of salient self-concepts" (2003, p. 22). Therefore, a person's group's status is essential, not just to the relations between groups, but also to that individual's social identity and general self-concept.

Therefore, by identifying with a group, the individual becomes a part of a greater thing. The individual no longer needs to rely on his own wins in order to help him feel good about himself, he can now rely on the wins of the other group members as well. Furthermore, being able to show your membership and identification with another group can be rewarding in other ways. One reason a person might choose to get their body modified is in order to strengthen their own feelings and identity with the stigmatized group. Currently, there is no research on this area in terms of body modifications, however, research has been done looking at ethnicity, as well as with religious attire.

In a study looking at skin tones in Hispanics, researchers found that those who believed their appearance to be typical of their group tended to have a stronger positive

feeling about being a member and to have an ethnic identity that corresponds to that group (Santos & Updegraff, 2014). Similar things were found when researchers examined the motivations for Muslim women to wear a hijab, with one participant noting, "[Because I veil], Muslim people know I am Muslim, and they greet me in Arabic" (Read & Bartowski, 2000, p. 404).

While no research has been conducted on body modifications at the present, it is possible that this appearance factor also plays a role in body modifications given that displaying visual cues of group membership, either as body modified people in a body modified community, or as body modifications as symbols of membership in other groups, may help the individual further get into the role of being a member of that group. According to the self-categorization element of social identity theory (Turner et al., 1987), once we have chosen to belong to a group, we then begin to behave and dress in the mannerisms of this group (Hogg & Williams, 2000). For example, if a college student decides to self-categorize as a member of a university (e.g. Michigan Wolverines), then they might decide to wear more University of Michigan apparel as a way to show their identity to others. Or in the case of body modifications, it is possible that someone might get a tattoo of the block M, or a wolverine, in order to saliently show their identity with the university.

Furthermore, these visual aspects and reminders of group membership (i.e. looking in a mirror, being subject to others' stares) can be very comforting in that you have a common ally, someone who understands your background, your feelings, and your experiences, and might help solidify a body modified individual's identity, particularly if these reminders are positive. These positive reminders might be particularly important

for those in the body modified community who have a strong identity with the community because while these practices might be considered non-normative in mainstream society, they would most likely be viewed as normative practices within this community.

Reaction. One of the elements that has not been researched when it comes to the body modified community is the reaction they received by others due to their modifications. While researchers have looked into how others perceive people with body modifications, researchers have yet to ask participants about the reactions they received, if any. All that is known is that society seems to be more accepting of body modifications, to the point that they might no longer be seen as a form of deviance (Forbes, 2001). One would think, given social identity theory, that other people in the body modified community might respond positively to a person's new modification, at least this would be the ideal if this community is important to the individual's identity. However, how have others reacted? Did people respond as expected, or were there surprises, such as a very conservative family member reacting warmly to a grandchild's tattoo? This information could provide valuable, perhaps even more so than asking participants how they think they would respond, since some studies have found that attitudes do not accurately predict behavior (Lapiere, 1934).

Location. Like motivation, location of body modification is something that has also not been researched intensely. The studies that have examined location have found that the more visible or salient the body modification, specifically tattoo, the more stigma the wearer faces (Burgess & Clark, 2010; Hawkes et al., 2004). This finding is consistent with other types of stigma, in that individuals with a visible stigma experience greater

amounts of discrimination than those who are able to conceal their stigma (Goffman, 1963). Therefore, given the stigma that has surrounded the body modified community, at least in past years, people choosing to get a body modification might be drawn to a concealable modification in order to prevent discriminatory attacks, whether they be verbal comments, or more egregious offenses like employment loss. Moreover, it is possible that certain personality traits might drive individuals to get a more concealable (or more visible) body modification. Therefore, this element should be further explored.

Purpose of the Present Studies

As has been established, there is a considerable lack of research on the area of body modifications. More personality traits need to be examined to look for differences between the modified and non-modified communities, and the modified community needs to be examined to see if there are differences in personality traits, among other motives within the community itself. These calls for research highlight the two purposes of the present studies. The pilot study examined if other personality traits might show differences between the modified and non-modified communities. Furthermore, the pilot began to examine the possible role of body modification location, to see how personality traits might affect location differences within the body modified group.

The primary study focused solely on the body modified community. In one of the first studies on this topic, the primary study focused on personality trait differences within this community and how these differences might relate to location of modification, motivation for getting the modification, as well as the reaction others gave.

In terms of theoretical implications, this research will help contribute to the literature of social identity theory and groups, particularly in terms of motivation. As

previous studies have found (Antoszewski et al., 2010), there are many reasons why people choose to get a body modification, however, no studies on body modification motivations have begun to see if social identity theory plays a role. The primary study will begin to examine if there are differences in one's motivation to get a body modification, and if one's need to belong seems to be playing a role in this element. Social identity theory, and its extensions, have been studied in a number of different types of groups, but has not been studied in the body modified community. The possible application of social identity theory to the body modified community should be examined to see if this theory applies to this group as well. Furthermore, these studies may help contribute to the literature of social identity theory and stigma, given that body modifications still carry a somewhat stigmatizing element.

Chapter Two

Research Questions & Hypotheses Part I

Research Question #1. Are there differences in other personality traits in regards to whether or not one chooses to have a body modification?

As was previously mentioned, only a handful of personality traits have been examined in regards to those with and without body modifications. Therefore, more work needs to be done in this area. For this study, I chose to examine three personality traits that might affect whether someone chooses to get their body modified. The three traits I examined were locus of control, social desirability, and handedness.

Locus of Control. One's locus of control indicates the extent to which they feel they have control over their lives (Rotter, 1966). Those who see themselves in control of the outcomes of their actions are labeled as having an internal locus of control, whereas those who believe that their outcomes are controlled by external factors that they cannot control are labeled as having an external locus of control.

Prior research has found that those with an external locus of control are more likely to be depressed (Benassi, Sweeney, & Dufour, 1988), and anxious after negative events (Sandler & Lakey, 1982). Meanwhile, those with an internal locus of control are more likely to have lower stress (Arsenault, Dolan, & van Ameringen, 1991), are better able to deter gratification (Lefcourt, 1976), and have better coping skills (Arsenault et al., 1991), including an increased ability to cope with failure (Lefcourt, 1976). Moreover, those with an internal locus have been found to be more efficient at coming to terms with change (Lefcourt et al., 1973, in Lefcourt, 1982).

At this point, there are no studies that have examined any link between locus of control and body modifications. However, one could surmise that those with an internal locus of control might be more willing to modify his body because he can use his body modifications as a way to help control how others see them. Conversely, one could also argue that those with an external locus of control might be more willing to modify her body because, given an external locus of control, she does not see any relationship between her actions and any potential consequences. On the other hand, she might use her body modification as a way for others to influence her actions. Alternatively, one might modify their body as a way of expressing their identity with other groups which reflect their feelings of identity as well as control.

Social Desirability. The choice behind this concept is a little more straightforward than the one for locus of control. Those who are high in social desirability tend to be extremely aware of how others see them, and as such want to give the "correct", or socially desirable answer. Those who are low in this trait do not pay much attention, if any, to the perceptions of others. Therefore, this trait was chosen because it would seem reasonable that those who get their body modified might have lower social desirability scores than those who refrain from body modifications. However, one study (Tate & Shelton, 2008) that used this scale did not find any differences, so it is possible that scores might not differ.

Handedness. Although not exactly a personality trait, there are several reasons why this attribute was chosen for this study, although this choice is admittedly exploratory. Before the decision is explained, it should be mentioned that handedness in this study is not defined by hand dominance (i.e. left versus right) but rather the degree of

preference of one hand over another (Christman, 2014). Therefore, strong handers are classified as people who prefer to use the same (dominant) hand for all everyday tasks, whereas mixed handers are classified as people who use their non-dominant hand for at least one everyday task.

This variable was chosen due to its association with cognitive flexibility, which might play a role in the decision to get a body modification. Although there are several ways to define cognitive flexibility, for the purposes of this paper, cognitive flexibility refers to the ability for someone to switch, or adapt, their thinking to new stimuli in an efficient manner (Christman, 2014). In this case, the individual will not hold tightly to the traditional ways of thought, and will instead adapt their thinking to the new situation. Prior research has found that when handedness is used to evaluate cognitive flexibility, strong handers have decreased cognitive flexibility compared with mixed handers (Prichard, Propper, & Christman, 2013). Reduced cognitive flexibility in strong handers is believed to be due to decreased interhemispheric access (Prichard et al., 2013) because of a smaller corpus callosum, (Luders et al., 2010) which yields decreased right hemisphere activity (Propper, Pierce, Geisler, Christman, & Bellarado, 2012).

Due to their larger corpus callosum and subsequent greater access to their right hemisphere, mixed handers have been found to be higher in sensation seeking (Christman, 2014) a trait that has been associated with body modifications (Stirn et al., 2006), better at taking the perspective of others (Prichard et al., 2013), and have more flexible body image representations (Christman, Bentle, & Niebauer, 2007; Niebauer, Aselage, & Schutte, 2002). Furthermore, there is evidence that mixed handers are lower

in Right Wing Authoritarianism (Christman, 2014; Prichard et al., 2013), and lower in disgust sensitivity (Christman, 2014; Prichard et al., 2013).

The concept of disgust sensitivity is particularly important here in the adoption of a body modification, and why the concept of handedness was included. Disgust sensitivity comes from the evolutionary theory of parasitic avoidance (Kurzban & Leary, 2001) which is from the evolutionary perspective that many of the behaviors humans used in the past were designed such that humans avoid certain situations and individuals that could be seen as threatening to our own survival as well as the survival of the gene pool (Kurzban & Leary, 2001; Stangor & Crandall, 2000). Thereby, we might stigmatize and avoid people with certain looks because they look different, and we are concerned that we might "catch" this difference. Because it is much more costly to have an incorrect assessment, such that an incorrect assessment could theoretically lead to the death of not only the individual but possibly others through disease transmission, humans are programmed to have a high false positive rate (Haselton & Nettle, 2006). That is, when encountering someone with a deviant appearance, humans are more likely to mistakenly categorize that person as diseased than to correctly categorize them as healthy. This relates to disgust sensitivity in that disease avoidance triggers underlying emotions of disgust (Kurzban & Leary, 2001). Therefore, it is possible that mixed handers are not as easily affected by different stigma triggers, as are strong handers.

Finally, while the study of effects of degree of handedness is still a young field, it has been previously evaluated with locus of control. Researchers found that strong handers have a more external locus of control than mixed handers (Hicks & Pellegrini, 1978), indicating that the strong handers were more likely to belief that fate controlled

outcomes in their lives. However, it should be noted that their division of handedness was not mixed vs. strong, but rather mixed vs. strong right vs. strong left, probably due to the conception of handedness at that time. Given the inclusion of locus of control in this study, it seemed reasonable to include this variable as well.

Hypothesis #1. It is hypothesized that there is a relationship between locus of control and likelihood of getting a body modification.

Due to the fact that this study is the first conducted on these personality traits and body modifications, the research in this study was mostly exploratory in nature. It is possible that those with an internal locus of control, that is those who view that they control what happens to them, would be more likely to get a body modification than those with an external locus of control. Alternatively, it is also possible that those with an external locus of control, might be more likely to get a body modification. Therefore, while I believe that one's locus of control might influence one's likelihood to get a body modification, the exact direction of this relationship, specifically in terms of locus of control, is unclear.

Hypothesis #2. It is hypothesized that those with higher social desirability scores would be less likely to choose to get a body modification. Although one study on body modifications and social desirability found no differences (Tate & Shelton, 2008), it was still hypothesized that those with higher social desirability scores would less likely to have their body modified. Given that body modifications are associated with stigma, and that those with high social desirability scores want to act in a social desirable manner, it was hypothesized that these individuals would not want to get a body

modification out of concern for how others might see and treat them based on the body modification.

Exploratory analyses. Due to the lack of research in this area, particularly relating the chosen personality traits with body modifications, part of this study was exploratory. Because people chose to get body modifications in specific areas of their bodies, it was thought that location of body modification might play a role. For this study, it was thought that locus of control scores might determine body modification placement. Specifically, could locus of control influence whether someone chooses to get a very visible body modification, a concealable modification, or no modification.

Additionally, while there was one study that linked locus of control and handedness (Hicks & Pellegrini, 1978), which found that strong handers have a more external locus of control than mixed handers, these concepts were not examined under the realm of body modifications. Since the research on both body modifications and handedness is fairly limited, the inclusion of this concept in this study was strictly exploratory as well.

Chapter Three

Pilot Study

Method

Participants

The sample consisted of 177 participants recruited through Amazon Mechanical Turk (Mturk). The sample was almost equal in terms of gender composition with 89 males (50.3%) and 88 females (49.7%). Only individuals 18 years or older who currently lived in the United States were eligible for participation.

In order to obtain a sample of respectable power, a power analysis was conducted prior to data collection through G*Power (Faul, Erdfelder, Buchner, & Lang, 2009; Faul, Erdfelder, Lang, & Buchner, 2007). According to the power analysis, a medium effect size with power at .8, with the possibility of 6 groups (given the exploratory analyses) would require 158 participants. Therefore, the sample of 177 exceeded this number indicating good power.

Participant Recruitment. In order to obtain a more diverse sample than what would be expected using a university's Subject Pool, participants were recruited through the Amazon Mechanical Turk (Mturk) website. Mturk is an online site where individuals post tasks, such as surveys, to be completed by other individuals for a small amount of monetary compensation, typically in the range of several pennies to several dollars. In this website, those that post the task, also known as a "HIT" or Human Intelligence Task, are known as "requestors" whereas those who complete these HITs are known as "workers." Workers are given lists of HITs that they qualify for and can select the HITs they choose to complete. Studies evaluating data quality in Mturk (Buhrmester, Kwang,

& Gosling, 2011; Paolacci & Chandler, 2011) have found that participants are typically more demographically diverse (e.g. gender, race), as well as slightly older (i.e. the average age is in the early 30s rather than late teens) than what is found in university subject pools, leading to data that is more generalizable to a typical adult population, rather than limited to college student populations. Furthermore, data collected through Mturk has found to be highly reliable (Buhrmester et al., 2011). However, it should be noted, given the medium, that Mturk populations tend to be more technology savvy, and higher educated, than the general population (Paolacci & Chandler, 2014), although this comparison has not been compared to traditional university subject pools.

For this study, the description for this HIT was advertised as, "You will be asked to complete some questionnaires about yourself and then answer a few additional questions. This study will take approximately 10-15 minutes to complete." This wording was chosen in order to get a mixed sample of tattooed/pierced and non-tattooed/pierced individuals. The HIT was set so that only individuals 18 years of age or older and currently residing in the United States were allowed to participate. Participants received 30¢ for their participation in the study. All recruitment and data collection procedures were approved by the University of Toledo Institutional Review Board (IRB).

Measures

All of the scales listed below as well as the other questions can be found in Appendix A.

Rotter's Locus of Control Scale (LOC). The Rotter's Locus of Control Scale (Rotter, 1966) is a 29 item scale designed to measure beliefs regarding control. Each item on the LOC is presented with two statements, one indicating a more internal locus of

control with the other indicating a more external locus. Participants are instructed to choose the statement that best reflects their overall beliefs. Scores can range from 0-23 with higher scores indicating a more external locus of control. A sample item choice is, "Many of the unhappy things in people's lives are partly due to bad luck" contrasted with "People's misfortunes result from the mistakes they make." Cronbach's alpha for this study was acceptable at .793.

Social Desirability Scale (SDS). The Social Desirability Scale (Crowne & Marlowe, 1960) is a 33 item scale designed to measure participants' tendency to give a socially desirable response instead of the honest response. Participants are presented with each item, presented as a statement, and are asked to indicate if that statement accurately reflects their beliefs/behavior by indicating "true" or "false." Scores can range from 0-33 with higher scores indicating a greater number of socially desirable responses. Sample items include, "Before voting, I thoroughly investigate the qualifications of all the candidates" and "I have never deliberately said something that hurt someone's feelings." Cronbach's alpha for this study was good at .826.

Edinburgh Handedness Inventory (EHI). The Edinburgh Handedness Inventory (Oldfield, 1971) is a 10 item scale designed to measure participants' hand dominance. The EHI is presented with a five point scale with the following choices, "always left", "usually left", "no preference", "usually right", and "always right". Each item indicates a common task that involves the use of the hands (e.g. holding a pen, brushing teeth, opening jars). Scores on the EHI can range from -100 - +100, with positive scores indicating right handers and negative indicating left handers. Depending on the analysis, the degree to which one is primarily dominant in one hand is based either

on participants' raw data, in which scores above 85, or below -85, are considered "strong" or "consistent" handers, and scores between -80 and +80 are considered "mixed" or "inconsistent" handers. Or, if nominal data is preferred, absolute values can be calculated such that scores above 85 are considered "strong" or "consistent" handers and lower scores (0-80) are classified as "mixed" or "inconsistent" handers. For this study, absolute values were calculated. Cronbach's alpha for this study was excellent at .949.

Tattoo & Piercing Questions. In order to determine which participants had one or more tattoos/piercings, participants were asked if they had any tattoos, the number of tattoos they had, and the location of theses tattoos. For location, participants were given several possible locations (i.e. upper arm, lower arm, legs, back, face) as well as the option of "other" where they could explain the location if it did not fit into the above options. The same questions (i.e. number, and location) were then asked in regards to body piercings. For location, participants were once again given several possible locations (i.e. ear lobe, another part of the ear, nose, eyebrow, navel) as well as the option of "other" if the location of the piercing did not fit into the other options.

Demographic Information. Participants were asked a series of demographic questions including their gender, age, ethnicity, highest level of education completed, occupation, relationship status, religiosity, religious faith, and political ideology.

Procedure

Participants completed the survey online. Participants who qualified for and chose to complete the HIT on Amazon Mturk were rerouted to the study materials on PsychData. PsychData is a web survey platform which allows researchers to create and

administer their own surveys. The collected data are saved in a secure research database accessible by password. Once rerouted to the PsychData survey, participants read an informed consent form, and acknowledged their consent. Participants were then given the LOC, SDS, and EHI first. Afterwards, participants were asked several questions regarding if they had any tattoos and piercings, the quantity of both, and the location(s). Finally, participants completed a demographics questionnaire and were debriefed.

In order to reimburse participants, participants were asked to think of a random five digit number. This number was then inputted twice, once on the PsychData survey, and once on the Mturk HIT page. Once data collection was complete, the PsychData database and the Mturk database were downloaded by the researcher for matching purposes. If the same number appeared in both the PsychData database, as well as in the Mturk database, the participant was credited as having participated and was given their promised payment. It should be noted that all of the data collected in this study was downloaded to a secure computer and includes no identifying information.

Results

Demographics

Participant ages ranged from 20 – 71 (M = 38.68, SD = 12.59). In terms of ethnicity, the sample was comprised of 141 European Americans (White; 79.7%)), 13 Asians (7.3%), 10 Hispanics (5.6%), nine African Americans (5.1%), and four (2.3%) identified as "Other." The sample was highly educated with 87% indicating that they have had "some college" or higher. Participants were split in terms of religiosity with 92 (52%) indicating that they were "not religious."

In terms of body modifications, 59 (33.3%) had at least one tattoo, and 71 (40.1%) had at least one piercing. Because it is plausible that some participants might have both types of body modifications, the data were also examined with this in mind. When examined this way, 24 (13.6%) had one or more tattoos, 36 (20.3%) had one or more piercings, 35 (19.8%) had at least one tattoo and one piercing, and 82 (46.3%) and no body modifications. In terms of tattoos, participants with tattoos averaged 2.47 (SD = 2.82), with 74.6% having at least two tattoos. In terms of piercings, participants averaged 4.01 (SD = 5.81) with 66.2% having at least three piercings.

Location Coding

Given that that tattoo/piercing placement might be important, with the idea that some placements are easier to conceal than others, I first recoded the placement into either visible or concealed (less visible). For tattoos, those that were located on the lower arm, face, hand, or fingers were classified as "visible", meanwhile, those located on the legs, back, ankle, shoulder, upper arm, or other easily clothed areas were classified as "concealed." In terms of piercings, those located on the ears, and face (nose, eyebrow, lip, etc.) were classified as "visible", meanwhile, those located on the nipples, navel, or genitalia, were classified as "concealed."

Analyses

Hypothesis #1. It is hypothesized that there is a relationship between locus of control and likelihood of getting a body modification. In order to examine hypothesis one, an independent samples t-test was examined using LOC scores, and asking if participants have a body modification. Analysis revealed a significant difference, $t(175) = 3.69$, $p = .001$, $d = .59$. Those with one or more body modifications showed a more

external locus of control (M = 13.41, SD = 4.50) than those without a body modification (M = 10.72, SD = 4.60).

Hypothesis #2. It is hypothesized that those with higher social desirability scores would be less likely to choose to get a body modification. In order to examine hypothesis two, an independent samples t-test was examined using SDS scores, and asking participants if they have a body modification. Analysis revealed no significant differences in social desirability scores, $t(175) = .896$, $p = .371$.

Exploratory analyses. In order to examine the exploratory area, specifically looking at locus of control, handedness, and location, or visibility, of body modifications, a 3 (body modification visibility: concealed, visible, or none) X 2 (handedness: mixed or strong) between-subjects ANOVA was conducted on LOC scores. Analysis indicated a significant main effect for body modification visibility, $F(2,170) = 8.34$, $p < .001$, $\eta_p^2 = .089$. Those with a visible body modification reported the most external LOC ($M = 13.72$, $SD = 4.80$) followed by those with a concealable body modification ($M = 12.34$, $SD = 4.28$), and then those with no body modification ($M = 10.16$, $SD = 4.69$). Pairwise comparisons showed a significant difference between the no body modification condition with both the concealable ($p = .004$) and visible ($p < .001$) conditions. Analysis found no significant main effect for handedness, $F(1,170) = 1.27$, $p = .261$.

Analysis indicated a significant interaction, $F(2,170) = 4.27$, $p = .015$, $\eta_p^2 = .048$. In terms of mixed handers, those with a visible body modification showed the highest LOC ($M = 15.44$, $SD = 3.85$), followed by those with a concealed body modification ($M = 12.82$, $SD = 3.86$), and those with no body modification ($M = 9.22$, $SD = 4.22$). Strong handers showed a similar pattern with visible body modifications reporting the highest

LOC (*M* = 12.00, *SD* = 5.25), followed by concealed body modifications (*M* = 11.87, *SD* = 4.58), and no body modifications (*M* = 11.09, *SD* = 4.91), although their pattern was not as strong within the strong handers as it was with the mixed handers.

Simple main effects analysis showed that while there were no significant differences in LOC among the consistent handers, across different levels of visibility, $F(2,170) = .403$, $p = .669$, there were significant differences for inconsistent handers, $F(2,170) = 11.85$, $p < .001$, $\eta_p^2 = .122$. Pairwise comparisons showed significant differences between the visible and none conditions $t(50) = 8.39$, $p < .001$, $d = 1.54$, the concealed and none conditions, $t(61) = 3.14$, $p = .002$, $d = .89$ and a marginally significant difference between concealed and visible conditions, $t(41) = 1.85$, $p=.066$, $d=.68$. Furthermore, simple main effects analysis indicated a significant difference between handedness groups in LOC for those with visible body modifications, $F(1,170) = 4.373$, $p = .038$, $\eta_p^2 = .025$, and marginally significant for those with none, $F(1,170) = 3.48$, $p = .064$, $\eta_p^2 = .020$, however, the handedness difference in LOC for those with concealed body modifications was not significant, $F(1,170) = .698$, $p = .405$.

A 3 (body modification visibility: concealed, visible, or none) X 2 (EHI median split: inconsistent or consistent) between-subjects ANOVA was conducted on SDS scores, however, there were no significant results. All *p*s > .31.

In order to see if there was a relationship between the different personality traits and participants' number of body modifications, median splits were conducted on the scales, and then examined with number of body modifications as the dependent variable. These analyses were specifically focused on those with body modifications, therefore those without body modifications were not analyzed. Independent samples t-tests were

conducted on each of the scales (i.e. locus of control, handedness, and social desirability). In terms of number of tattoos, no differences were found, all *p*s > .11. In terms of number of piercings, only the SDS scale showed a marginally significant difference, $t(69) = 1.73$, $p = .09$, $d = .39$. Participants high in social desirability tended to have a higher number of piercings ($M = 5.40$, $SD = 8.38$) than those low in social desirability ($M = 3.00$, $SD = 2.40$). In terms of total body modifications, that is number of tattoos plus the number of piercings, no significant differences were found, all *p*s > .15.

Discussion

This study aimed to examine potential differences in locus of control, handedness, and social desirability between the body modified and non-modified communities. Furthermore, this study aimed to examine differences within the body modified community with regards to personality traits as well as body modification visibility.

First, before the hypotheses are discussed it should be noted that the average number of tattoos per individual in the pilot matched frequencies in other studies (Swami et al., 2016). Therefore, the sample in this study seemed to be consistent with other studies of this nature. This was important because this study was not advertised as a study on body modifications, which could have affected results. Therefore, there did not seem to be any major differences in terms of number of tattoos between this sample and those reported in the literature, which leads strength to the potential generalizability of these results.

The first hypothesis was that there may be a relationship between body modifications and locus of control, although the exact direction of that relationship was not clear. It was found that locus of control scores became more external for participants

with body modifications. Perhaps people with an external locus of control are more likely to get their bodies modified because they do not see any relationship between this action and any potential associated ramifications. Or it is possible that they want to identify with others who also have the same feelings of identity and control. More research on this will be need to be conducted.

In terms of social desirability, while it was hypothesized that there would be differences in social desirability scores between those with and those without body modifications, the results found no differences. Although surprising given the idea behind the concept of social desirability, previous studies (Tate & Shelton, 2008) also found no differences between groups. It is possible that social desirability does not play a role in the motivation to get, or to refrain from getting, a body modification. Alternatively, it is possible that people with body modifications may want to show membership in groups that do not conform to the constructs that this specific social desirability scale measures. That is, perhaps, body modified individuals belong to groups that do not match well with societal norms, norms that the SDS examines.

In terms of the analyses on visibility of body modification and personality traits, body modification visibility was associated with locus of control: the more visible the body modification, the more external a participant's locus of control. Given the construct of locus of control, it is possible that those with an external locus of control do not feel that a visible body modification will affect their future, and as such do not shy away from these visible markings. Alternatively, it could be that those with an internal locus of control are hesitant to get a visible body modification due to the possibility that this might affect other aspects of their life, and as such tend to choose a more concealable

location. In terms of handedness, mixed handers tended to show a more external locus of control (12.49 vs. 11.65), although the differences between these groups was not significant. Given the findings by Hicks & Pellegrini (1978) this was surprising, as they had found that strong handers had a more external locus of control. However, the data in this pilot trended in the manner of Hicks & Pellegrini's original prediction, which was contrary to their findings. Future research will need to look at this area.

The pilot study showed an interesting dynamic in terms of the interaction between body modification visibility and handedness, with the mixed handers showing a different pattern of LOC scores than the strong handers. Strong handers were very consistent regarding their LOC across the three types of body modification visibility, meanwhile, the mixed handers showed a clear pattern of increasing external LOC as body modification visibility became more apparent. Specifically, both groups with body modifications (visible and concealed) displayed a higher external LOC when compared to the no body modification condition. It would appear that these groups, especially those in the visible body modification group, may be less likely to believe that they will be judged/treated differently by others due to their choice to get a body modification, and as such are more likely to get a visible modification compared to the other groups (i.e. concealable and none) within the mixed handers group as well as when compared to the strong handers. Meanwhile, the strong handers are uniform across conditions. Therefore, while we did not find a main effect in handedness, the mixed handers seem to be driving the interaction.

Only a marginally significant difference was found in terms of number of piercings and social desirability scores. Analyses examining the other scales, and

numbers of tattoos, and numbers of total body modifications were not significant. It is possible that personality traits do not necessarily influence the number of body modifications an individual chooses to get. However, given that only a few personality scales were used, further research should be conducted.

Overall, there does seem to be a relationship between those who acquire body modifications and their locus of control, particularly in terms of location as well as handedness. However, given the results of the exploratory analyses, it would seem that researchers need to examine those with body modification a little closer as there seems to be a lot of variability within this group. This leads us to the primary study.

Chapter Four

Aims of Primary Study

The pilot study was helpful in two ways. First, it helped show several "new" personality traits that seem to be associated with body modifications. Second, it showed that there were differences in some personality traits within the group that did have their body modified. The primary study will focus more on latter, since most studies on body modifications examine differences between those with and without body modifications, but very few pay attention to the potential differences within the body modified group. Given the different possible placements of body modifications ranging from completely concealed (e.g. hip) to always visible (e.g. face, hands), as well as the different motivations people have when it comes to getting these modifications, it does not seem realistic to say that there are not any differences within this group. That is, it should be expected that the body modified group is varied within such that some, for example, might be more likely to be classified as deviant, whereas others would be classified as an "average" person, seemingly unlikely to get a body modification in the first place.

For the primary study, I focused on two things. First, I continued to focus on the personality traits aspect, examining if there are differences in personality traits within the body modified community. While the pilot study focused on locus of control, handedness, and social desirability, the primary study examined locus of control, handedness, as well as a few other traits. Second, I focused on several factors that might be important in terms of the differences within the body modified community.

Personality Traits

As was shown in the pilot study, locus of control and handedness interacted in terms of body modification visibility. Meanwhile, social desirability showed no significant findings. Given these results, I once again examined locus of control and handedness with the current study. In addition, several other traits were examined as some researchers have stated the need for further research on body modifications and their possible relationship to personality traits (Swami, 2011). Given the idea that social identity might be critical for some possessors of body modifications, I used a social identity measure. Specifically, I used a need to belong scale, to measure participants' need to belong to a group.

Moreover, given that those high in right-wing authoritarianism have strong beliefs about following the orders of authority, and adhering to social norms (Altemeyer, 1981; Altemeyer, 1998), I chose to include this scale as a measure in this study. Because those who choose to get a body modification are in a strong sense, going against societal norms, it would seem that those with body modifications might tend to be low in right wing authoritarianism. Furthermore, going back to handedness, mixed handers tend to be lower in right wing authoritarianism (Christman, 2014; Prichard et al., 2013), and as such, since handedness did seem to be related to locus of control scores and body modifications, there is the possibility that right wing authoritarianism might also play a modulating role in this area.

Main Within-Group Differences

Besides examining differences in personality traits within the body modified community, it would be best to identify several key variables that might allow for differences in personality traits to occur. First, location of body modification might be

dependent on certain personality traits, such as what was found in the pilot study. Furthermore, motivation might be driven by certain personality traits, like one's need to belong. Finally, reaction by others to one's body modifications might show interesting differences within the body modified community. These three elements were chosen for the primary study based on the belief that they might prove useful in helping determine differences within the body modified community.

Chapter Five

Research Questions & Hypotheses Part II

Research Question #1. Can body modification visibility, motivation for the body modification, and reaction from others be predicted by certain personality traits?

Hypothesis #1. It is hypothesized that participants' locus of control scores will predict body modification location. Specifically, it is hypothesized that external locus of control will be associated with more visible body modifications. Given the results of the pilot study where it was found that body modification visibility was related to locus of control scores in that the more visible the body modification, the more external the participants' locus of control. It is expected that these results will be replicated in the primary study.

Hypothesis #2. It is hypothesized that participants' scores on need to belong will predict motivation for choosing a body modification. Specifically, it is hypothesized that higher need to belong scores will predict a more identity-centric motivation. Given the importance of one's social identity in society, the need to belong is immensely important to individuals (Baumeister & Leary, 1995). In order to satisfy this intense need, humans are motivated to create and maintain close bonds with others. Not doing so can affect us negatively. In their seminal review of the concept, Roy Baumeister and Mark Leary (1995) proposed that there are two features to a need to belong. First, people need to have frequent contact with others, preferably in a positive manner, and second, these relationships with others need to be stable with the belief that this relationship will continue in the future. Therefore, given these features, as well as the different elements of social identity theory, it is hypothesized that participants' need

to belong will affect their motivation for choosing a body modification. It is hypothesized that those with a high need to belong will be highly motivated to modify their body in a manner that will show their association to a group, or identity. Meanwhile, those who do not possess a high need to belong, will be more likely to be motivated to modify their bodies for aesthetic or commemorative purposes.

Reaction Variable Predictions. It should be pointed out that due to the unusual nature of this variable, as well as the lack of research on this specific topic, there was not a specific hypothesis for reaction. Any analysis conducted on the reaction variable was purely exploratory.

Other Identity Measures. While the main hypothesis revolves around the concept of need to belong as a possible predictor of an identity-centric motivation, it is possible that other measures of identity may also be influential in predicting identity-centric motivations. Therefore, another identity measure will be examined for exploratory purposes.

Research Question #2. Is there a difference in motivation between participants' first body modification and subsequent modifications?

Given the lack of research on this topic, the question was purely exploratory. While some researchers have looked at how attitudes towards one's body have changed since getting the modification and have found that these modifications tend to lead to positive changes in body image and self-esteem (Swami, 2011) no one has examined if motivations changed in people with multiple modifications. One could argue that the choice to get the first body modification might be more meaningful than the choice to get subsequent modifications. Therefore, it is entirely possible that we could see a difference

in motivation from the first to second body modifications in that the first one might be more identity based whereas latter ones are more aesthetic or commemorative based. However, it is also possible that the opposite could happen in that the first modification might be more aesthetic or commemorative based, which then could inspire the individual to choose more identity based modifications later in life. Due to this dilemma, a specific hypothesis could not be made and as such will be examined for exploratory purposes.

Chapter Six

Method

Participants

Participants consisted of 381 adults recruited through Mturk. Due to the guidelines posted in the recruitment advertisement, recruitment was limited to individuals 18 years or older who currently lived in the United States, and who had at least one tattoo or one piercing. Female participants were told to not count any ear lobe piercings. The sample consisted of 257 (67.5%) females, 123 (32.3%) males, with one participant (.3%) choosing "other".

Participant ages ranged from 20-73 (M = 34.82, SD = 10.15). The sample was somewhat diverse in terms of ethnicity with 301 Caucasian/White participants (79.0%), 23 Asian Americans (6.0%), 22 Hispanic/Latinos (5.8), 21 African Americans (5.5%), five Native Americans (1.3%), one Arab American (.3%), with six participants (1.6%) choosing "Other", and two participants (.5%) choosing not to answer.

The sample was well educated with the majority of the sample (87.4%) having at least some college experience or some form of a college degree. Nearly half of the sample (43.6%) was married, with the majority of the sample (69.7%) currently being in some sort of relationship ranging from dating, cohabitating, or married.

The sample was well diverse in terms of religious faith with 89 (23.4%) Protestants, 77 (20.2%) Catholics, 77 (20.2%) Agnostics, 56 (14.7%) Atheists, 58 (15.2%) choosing "Other", and the remainder choosing Muslim (.5%), Jewish (2.9%), Buddhist (1.3%), and Hindu (1.3%). It should be noted that those who chose "Other" were allowed to write in their religious faith. Although some left this blank, many

participants stated “spiritual but not religious”. Participants were also asked their level of religiosity, with 191 (50.4%) stating “not at all religious”, 116 (30.6%) stating “somewhat religious”, and 72 (19%) stating “very religious”, with two participants declining to answer. In terms of political ideology, 197 (51.7%) categorized themselves as “moderate”, 136 (35.7%) as more “liberal” and 48 (12.6%) as more “conservative”.

In terms of body modifications, 328 (86.1%) had at least one tattoo, with a range of 1 – 56 (M = 3.20, SD = 5.42). However, when outliers were examined in terms of number of tattoos, it was found that seven participants (2.13%) of the tattooed sample reported tattoo numbers that fell 3-9 standard deviations above the mean. Given that it is unknown whether these deviations represent statistical noise, or meaningful information about this demographic, the main analyses were ran twice, once with the “outliers” included in the dataset, and once with them excluded. However, for the reader’s information, when these participants were excluded from the dataset, the number of participants with at least one tattoo was reduced to 321.

In terms of piercings, 216 (56.75%) had at least one, with numbers ranging from 1-5 (M = 1.61, SD = .99). However, this range may be a little misleading. It should be noted that seven participants chose not to answer the question regarding number of piercings, however, all seven participants provided information regarding location, motivation, and reaction for five piercings. Therefore, it is possible that several, if not all, of these seven participants had more than five piercings, however, given the information they provided, exact numbers could not be determined. In order to see the breakdowns in terms of number of participants by number of body modifications (e.g.

number of participants with at least four tattoos, or number of participants with at least three piercings) please refer to Table 1.

Due to the nature of the body modification community, it was thought that there might be some participants with both tattoos and piercings. Participants were asked if they had both types of body modifications, with 218 (57.2%) indicating "no" and 163 (42.8%) indicating "yes".

In terms of total number of body modifications, tattoos and piercings, numbers ranged from 1 – 61 (M = 3.62, SD = 5.46). The vast majority of the sample (88.5%) had between 1 - 6 total body modifications, with the remaining 11.5% having somewhere between 7 and 61 total body modifications. Only 128 (33.6%) participants had just one body modification, either a tattoo or a piercing.

Finally, it is important to note here that due to the complex nature of this design, some subsects of participants are not included in certain analyses depending on the specific research question and analysis. For example, although 328 participants indicated they had a tattoo, not all of these 328 participants were included when analyses were performed on the first body modification. This is because, as was just noted, some participants have both tattoos and piercings, and therefore their first body modification might not have been one of their tattoos but rather some type of piercing. Therefore, while participants did complete all of the measures listed in the next section, the exact sample sizes might vary slightly depending on the specific analysis.

Measures

All of the scales listed below as well as the other questions can be found in Appendix B.

Need to Belong Scale (NTB). The NTB (Leary, Kelly, Cottrell, and Schreindorfer, 2013) is a 10-item scale which measures an individual's need to belong to others, or to form interpersonal relationships. Participants are presented with a five-point Likert scale with endpoints of "1" indicating "strongly disagree" and "5" indicating "strongly agree". Scores range from 10 to 50 with higher values indicating a higher need to belong. Sample items include, "It bothers me a great deal when I am not included in other people's plans" and "If other people do not accept me, I do not let it bother me." Cronbach's alpha for this study was good at .843.

Right-Wing Authoritarianism Scale (RWA). The RWA (Altemeyer, 1998) is a 32-item scale which measures an individual's tendency to have right-wing authoritarianism beliefs. Participants are presented with a nine-point Likert scale with endpoints of "-4" indicating "very strongly disagree" and "4" indicating "very strongly agree". Because only 30 of the 32 items are counted in the total score, scores range from -120 to +120 with a theoretical midpoint of zero, with higher positive values indicating stronger beliefs in right-wing authoritarianism. Sample items include, "Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the "rotten apples" who are ruining everything" and "Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs." Cronbach's alpha for this study was excellent at .969.

Aspects of Identity Questionnaire (AIQ). The AIQ (Cheek & Briggs, 2013) is a 45 item questionnaire designed to measure different aspects of one's identity such as personal identity, social identity, collective identity, relational identity, and superficial

identity. Participants are presented with a five-point scale with the following choices: "1" indicating "not important to my sense of who I am," "2" indicating "slightly important to my sense of who I am," "3" indicating "somewhat important to my sense of who I am," "4" indicating "very important to my sense of who I am," and "5" indicating "extremely important to my sense of who I am."

The AIQ is broken down into four subscales, with each subscale measure a type of orientation. The superficial subscale was found using a different combination of AIQ items (Dollinger, Preston, O'Brien, & DiLalla, 1996) bringing the number of subscales to five. The AIQ also contains a number of special items which are scored individually. The subscales vary in item number with ranges for each subscale as follows: personal identity 10-50, relational identity 10-50, social identity 7-35, collective identity 8-40, and superficial identity 5-25, in all scales, higher numbers indicate increased amounts of that identity. Sample items include, "My personal values and moral standards," and "My feeling of connectedness with those I am close to." Cronbach's alphas for the AIQ subscales in this study ranged from acceptable to excellent (personal = .860, relational = .917, collective = .790, social = .812, superficial = .718).

Tattoo & Piercing Questions. In order to examine the main idea of Research Question #1, a number of questions regarding participants' tattoos and piercings were asked. First, as in the pilot, participants were asked if they had any tattoos. If so, they were then asked about the number of tattoos they have. Following this question, participants were asked specific questions about each tattoo (up to five), starting with their first tattoo.

First, they were asked the location of this tattoo. As in the pilot study, for location, participants were given several possible locations (i.e. upper arm, lower arm, legs, back, face) as well as the option of "other" where they could explain the location if it did not fit into the above options. Following this, participants were asked about their age when they got the tattoo. Then participants were asked about the reason why they got this tattoo. Several options were given (i.e. aesthetic reasons, commemoration, peer-pressure, identity – signifying that they belong to a group, uniqueness) as well as an option of "other". Afterwards, participants were asked about the reaction others had towards this tattoo, when the participant first got it. This reaction component was broken down into several categories, as some groups might be accepting of body modifications whereas others would not be. For reaction, participants were asked about their family's reaction, their friends' reaction, as well as the reaction from society in general. Each of these questions was followed by the answer choices of "positive" for an overall positive reaction, "negative" for an overall negative reaction, and "mixed" for a reaction that was positive from some and negative from others. If participants have more than one tattoo, these questions were repeated, up to a max of five tattoos in total.

Participants were then asked the same questions (i.e. number, location, age, reason, and reaction) in regards to body piercings. For location, participants were given several possible locations (i.e. ear lobe (for male participants), another part of the ear, nose, eyebrow, navel) as well as the option of "other" if the location of the piercing did not fit into the other options. The reason and reaction questions were the same as those asked with tattoos. Finally, participants were asked if they still have the piercing, as piercings tend to be less permanent in nature than tattoos.

Demographic Information. The same demographic questions asked in the pilot study were used again in this study. Therefore, participants were asked about their gender, age, ethnicity, highest level of education completed, occupation, relationship status, religiosity, religious faith, and political ideology.

Other Information. In addition, to the aforementioned scales, the EHI and LOC used in the pilot study, were also used in the present study. Cronbach's alpha for the LOC was acceptable at .776, and Cronbach's alpha for the EHI was excellent at .961.

Procedure

Participants completed the survey online. Participants who qualified for and chose to complete the HIT on Amazon Mturk were rerouted to the study materials on PsychData., where they read an informed consent form, and gave their consent. Participants completed the LOC, EHI, AIQ, NTB, RWA scales first. Following this, participants were asked questions about their tattoos/piercings. Finally, participants completed the demographics questionnaire and were debriefed. In order to compensate participants for their time, the same compensation system that was used in the pilot study was also used in the primary study.

Analyses Overview

First, demographics were examined in order to gain a better picture of the generalizability of the sample. Second, the scales (LOC, EHI, NTB, RWA) were examined for collinearity. Following this, regression analyses were performed using location, motivation, and reaction as dependent variables, and the LOC, EHI, NTB, and RWA as predictors, as well as participant gender and modification age, which will be explained in the next chapter. This process was done for the first body modification, as

well as for the combined subsequent modifications. This led to a series of six logistic regression analyses.

Chapter Seven

Results

Before the main analyses are explained in detail, several of the variables should be discussed in terms of coding. First, I will go over the coding for the main dependent variables of location, motivation, and reaction. Afterwards, I will discuss several elements of the predictor variables.

Dependent Variables

Location. As in the pilot study, body modification placement was recoded into either visible or concealed (less visible) placement. For tattoos, those that were located on the lower arm, face, hand, or fingers were classified as "visible", meanwhile, those located on the legs, back, ankle, shoulder, upper arm, or other easily clothed areas were classified as "concealed." In terms of piercings, those located on the ears, and face (nose, eyebrow, lip, etc.) were classified as "visible", meanwhile, those located on the nipples, navel, or genitalia, were classified as "concealed."

In terms of coding for the planned analyses, specifically here regarding the first modification as the coding for the subsequent modifications will be discussed later, dummy variables were used. For location, a concealable location was given a value of "zero", whereas participants with a visible body modification was given a value of "one".

Motivation. For motivation, coding was broken down into "mark-based" or "identity-based" motivations. Mark-based motivations were given a score of "zero" whereas identity-based motivations were given a score of "one". Mark-based motivations include if the body modification was chosen for commemorative reasons, or if they just liked the aesthetics of the mark, or if participants were peer-pressured into

getting the modification. If however, participants chose the modification because they want to be unique, or due to identity reasons, such as wanting to show their identity with a group, a value of "one" was given.

Moreover, due to the "check-all" approach for this specific variable, it should be noted that the participants' motivation was coded as mark-based only if they checked only mark-based options (i.e. aesthetics, commemoration, or peer pressure). If a participant checked at least one identity-based option, it was coded as identity-based and not mark-based.

In a handful of cases, participants chose to use the "other" option in order to better explain their reasoning for their body modification. If this option was used, then participant reasons were examined on a case-by-case basis to assess the best placement for these participants. In the majority of cases, the reasons given by participants fit into the first category, in that they elected to get the tattoo for commemorative reasons, or aesthetic appeal, however, in five cases, it was hard to properly categorize the participant's motivation given the two categories, and as such for the purposes of this study, these participants were dropped from analysis.

Reaction. For reaction, this variable was dependent on how the individual's friends, family, and society reacted. Therefore, if the reaction was positive for all three groups, a value of "zero" was given. If the reaction was mixed, or all negative, a value of "one" was given.

In the interest of the reader, the reaction variables for friends, family, and society followed a consistent pattern for both the first and subsequent modifications. The reaction by friends was predominantly all positive, followed by mixed, and then all

negative. The reaction by family tended to be mixed, followed by positive, and then negative. Finally, the reaction by society tended to be mixed, followed by positive, and then negative.

This process was repeated for each body modification a person has up to five modifications of each type.

Subsequent Modifications

Furthermore, as it was believed that there might be differences in motivation between the first modification and any subsequent modifications, care was taken to highlight the data from the first and separate it from the rest, such that subscale scores from the first modification were assessed and then compared to subsequent modification scores. If an individual had more than two modifications, such that the subsequent modifications was greater than one, then the subsequent modifications scores were combined. The specifics regarding how scores were calculated are discussed below.

Correlations were examined on the three main dependent variables of location motivation, and reaction, at both the first modification, and at the subsequent modification. The results of this analysis can be found in Table 2.

Predictors

First, as previously noted when participant gender was asked, one participant chose "other" for their gender. As only one participant chose this answer, when gender was analyzed, this participant was dropped from analyses. Therefore, in the following analyses, when gender was included, the variable only consisted of "male" and "female" subgroups.

Second, due to the stigma related to body modifications (Burgess & Clark, 2010; Degelman & Price, 2002), it is possible that body modification location, reaction, or even motivation might be partially due to societal beliefs at the time the modification was chosen. Therefore, an age at first modification (FModAge) variable was created for the participant's first body modification, specifying how long ago this modification was added to the participant's body. This variable was created by creating a difference score by taking the participant's age at the time the survey was completed and subtracting their age at the time of their first body modification. For example, if a participant stated that he was 45 at the completion of the survey, and that he got his first body modification at age 25, then his age at first modification would be 20, as in he got this body modification 20 years ago. After this variable was created, general descriptive information was gathered about this variable, with a range of 0 (indicating that the body modification was added sometime in the past year) to 60 ($M = 20.00$, $SD = 9.00$; median = 19, mode = 18).

Finally, as previously noted, part of the analyses below will examine differences in motives for the participants' first body modification versus their subsequent ones (if any). In order to determine first body modification, for participants with only one type of body modification (e.g. those with only tattoos) their first body modification was then singled out for this analysis. For those with both types of modifications, participants were asked which one they got first. Most participants were clear in their response, and their specific modification was then singled out. For those who were not quite so clear, their data were examined to see if one modification stood out from the others. For example, if they got one tattoo in their 20's but everything else was added in their 30's, then that one tattoo was determined to be their first body modification. However, for five

participants, it appeared that both types were added in the same year, with no additional information given to determine which one came first. In this case, these participants were dropped from this analysis.

The subsequent body modification analyses were conducted on all remaining modifications, regardless of type. Therefore, if a participant's first body modification was a piercing, and the participant had both types of modifications, the participant's remaining piercings, and all their tattoos were counted in the subsequent analysis.

Main Analyses

Prior to the main analyses, the predictor variables were assessed for collinearity. Collinearity analyses found no evidence of collinearity in the predictor variables with the highest variance inflation factor (VIF) being 1.038. In terms of collinearity numbers, "probable" multicollinearity typically shows a VIF above "3", with a number greater than "5" indicating "very likely", and above "10" indicating "definitely." Therefore, with the highest VIF being slightly over a value of one, it can be safely assumed that there is no collinearity between the predictors.

A series of logistic regressions were conducted to examine whether the trait scales of LOC, EHI, NTB, and RWA, plus participant gender, and FModAge predicted location of body modification. All of the predictor variables were entered into the regression in a block-wise format. All of the predictor variables were continuous, with the exception of participant gender, which was categorical (0 = Female, 1 = Male). These same predictors were used in each of the logistic regressions below.

Location. First, a logistic regression was conducted on location of first body modification. As previously mentioned, location was coded such that a score of "zero"

indicates a "concealable placement" and "one" indicates a "visible placement." Therefore, in terms of the participant gender variable, a negative *B* would suggest that female participants were more likely to have a visible body modification. In terms of the location variable for participants' first modification, 249 (68.4%) were coded as having a concealable body modification, and 115 (31.6%) were coded as having a visible body modification. Therefore, the sample size for this analysis was 364 participants, as some participants were dropped either because they did not include information about the location of their modification, or because due to the data provided it was impossible to determine their first modification.

Results of this analysis are summarized in Table 3. Analysis indicated that the predictor variables accounted for a significant portion of the variance ($X^2 = 28.92$, $p < .001$, *Nag* $R^2 = .11$). As shown in the Table, only the predictor of FModAge was significant, indicating that the more time that has passed since participants got their first modification, the more likely it was a concealable placement. In other words, participants who got a modification two years ago were 1.85 times more likely for it to be concealable, whereas participants who got a modification 20 years ago were 18.56 times more likely. All of the other predictors were not significant, *p's = ns*.

A logistic regression was then conducted on the location of subsequent body modifications. Although location was not specified in Research Question #2, this analysis was conducted for exploratory purposes. In order to create a truer comparison between first modification and subsequent modifications, location was coded such that a score of "zero" indicates "only concealable placements" and "one" indicates a "either only visible, or at least one visible placement". This breakdown was completed in this

manner because it is thought that participants with at least one visible body modification (tattoo or piercing) might be somewhat different from those who only have concealable modifications.

Moreover, breaking down this variable into two subgroups resulted in similar numbers of participants in both groups. Breaking this variable into two subgroups resulted in 89 participants (44.5%) in the concealable only group and 111 (55.5%) participants in the mixed or always visible group. However, the same could not be said if this variable was broken down into three subgroups. In this case, the cell counts would be 89 (44.0%) for "always concealable", 70 for "mixed" (i.e. some concealable and some visible placements; 35.5%), and 41 (20.5%) for "always visible". The similarities in cell counts with the two subgroup variable, along with its ability to allow for comparisons to the first modification variable, are why the two subgroup variable was chosen for this analysis. Given that many participants indicated that they only had one body modification, the total number of participants for this analysis dropped to 200.

Results of this analysis are summarized in Table 3. Analysis indicated that the predictor variables accounted for a significant portion of the variance ($X^2 = 24.13$, $p < .001$, *Nag* $R^2 = .16$). As shown in the Table, once again the predictor of FModAge was significant, indicating that the more time that has passed since participants got their first modification, the more likely it was that their subsequent ones had a concealable placement. In other words, participants who got a modification two years ago were 1.91 times more likely for it to be concealable, whereas participants who got their first modification 20 years ago were 19.1 times more likely. Furthermore, the RWA scale was also significant, indicating that as participants' RWA scores increased, or became more in

favor of right-wing authoritarianism, their subsequent body modifications were more likely to be concealable. All of the other predictors were not significant, *p's = ns*.

Motivation

A logistic regression was then conducted on motivation of first body modification. As previously mentioned, motivation was coded such that a score of "zero" indicates a "mark based" motivation and "one" indicates an "identity based" motivation. Therefore, in terms of the participant gender variable, a negative *B* would suggest that female participants were more likely to have an identity based body modification. In terms of the motivation variable for participants' first modification, 249 (76.5%) were coded as having a mark based motivation, and 86 (23.5%) were coded as having an identity based motivation. The sample size for this analysis differed from the one used when examining location due to missing or incomplete data for the motivation component, therefore reaching a total of 335 participants. Results of this analysis are summarized in Table 4. Analysis indicated that the predictor variables did not account for a significant portion of the variance ($X^2 = 5.86$, $p = .439$, *Nag* $R^2 = .02$).

A logistic regression was then conducted on the motivation of subsequent body modifications. As with the subsequent modification performed on location, in order to create a truer comparison between first modification and subsequent modifications, particularly since this variable is crucial to Research Question #2, motivation was coded such that a score of "zero" indicates a "only mark-based" and "one" indicates a "either only identity-based, or at least one identity-based" motivation. This breakdown was completed in this manner because it is thought that participants with at least one identity-

based body modification (tattoo or piercing) might be somewhat different from those who only have mark-based modifications.

Furthermore, in terms of participants' subsequent modifications, 158 (77.5%) were coded as having a mark based motivation, and 46 (22.5%) were coded as having an identity based motivation. Given that the mark based cell is already three times the size of the identity based cell, it did not seem practical to further break apart the identity based cell to tease apart those who had a mix of mark and identity based modifications from those who only had identity based modifications.

Results of this analysis are summarized in Table 4. Analysis indicated that the predictor variables did not account for a significant portion of the variance ($X^2 = 6.41$, $p = .379$, *Nag* $R^2 = .05$).

Reaction

Finally, a logistic regression was conducted on reaction to the first body modification. As previously mentioned, reaction was coded such that a score of "zero" indicates an "all positive reaction" and "one" indicates a "mixed reactions or all negative." Therefore, in terms of the participant gender variable, a negative *B* would suggest that female participants were more likely to have received a least one negative reaction to their body modification. In terms of the reaction variable for participants' first modification, 84 (22.3%) were coded as "receiving only positive reactions from others", and 292 (77.7%) were coded as "receiving either mixed reactions or all negative". Only five participants were dropped from the total sample of 381 for this analysis. These five participants were dropped due to incomplete information regarding the reaction they received from others.

Results of this analysis are summarized in Table 5. Analysis indicated that the predictor variables did not account for a significant portion of the variance (X^2 = 7.99, p = .239, *Nag* R^2 = .03).

A logistic regression was then conducted on the reaction to subsequent body modifications. The same coding scheme used for the first body modification reaction, was used for the subsequent modification variable (0 = all positive, 1 = mixed or all negative). In terms of the cell breakdowns, 53 (25.9%) were coded as receiving only positive reactions, and 152 (74.1%) were coded as receiving either mixed reactions or all negative. Results of this analysis are summarized in Table 5. Analysis indicated that the predictor variables accounted for a significant portion of the variance (X^2 = 12.89, p = .045, *Nag* R^2 = .09). As shown in the Table, several of the predictor variables were either significant or marginally significant. The predictor of RWA was significant, indicating that participants who scored higher in right-wing authoritarianism were more likely to report having received an all positive reaction from others.

Moreover, the predictor of LOC was marginally significant, indicating that participants who showed a more external locus of control, were more likely to report having received a mixed or all negative reaction from others. Furthermore, the predictor of NTB was also marginally significant, indicating that participants who showed a higher need to belong, were more likely to report having experienced an all positive reaction from others. All of the other predictors were not significant, *p's = ns*.

Outliers

As previously mentioned, seven participants recorded high numbers of tattoos, ranging from 20 – 56. Given that the main topic of this dissertation is on body

modifications, and that participants with body modifications were specifically requested for participation, these outliers presented a quandary. On the one hand, these participants might provide meaningful information about the tattooed community, possibly providing data that could be considered a truer representation of the tattooed community than those with simply one tattoo. Alternatively, these participants might not be a true representation of the tattooed community, possibly even a pariah of the community itself, and as such might add considerable noise to the data. Therefore, it was decided that due to these equally plausible hypotheses, it would be best to run the analyses twice: once with the outliers included, and once without. The previous six analyses included the outliers in the data. The following analyses will not include them. Furthermore, I will highlight analyses that statistically differed from the above analyses, specifically only the subsequent modifications reaction variable showed a difference. Also, the predictor variables used in the previous analyses were once again used in these analyses.

Location. A logistic regression was conducted on the dependent variable of location. Results of this analysis are summarized in Table 6. Analysis indicated that the predictor variables accounted for a significant portion of the variance ($X^2 = 30.41$, $p < .001$, *Nag* $R^2 = .12$). As shown in the Table, only the predictor of FModAge was significant, indicating that the more time that has passed since participants got their first modification, the more likely it was a concealable placement. All of the other predictors were not significant, *p's = ns*.

A logistic regression was conducted on the dependent variable of location. Results of this analysis are summarized in Table 6. Analysis indicated that the predictor variables accounted for a significant portion of the variance ($X^2 = 21.01$, $p = .002$, *Nag* R^2

= .14). As shown in the Table, once again the predictor of FModAge was significant, indicating that the more time that has passed since participants got their first modification, the more likely it was that their subsequent ones had a concealable placement. Furthermore, the RWA scale was also significant, indicating that as participants' RWA scores increased, or became more in favor of right-wing authoritarianism, their subsequent body modifications were more likely to be concealable. All of the other predictors were not significant, *p's = ns*.

Motivation. A logistic regression was then conducted on the dependent variable of motivation. Results of this analysis are summarized in Table 7. Analysis indicated that the predictor variables did not account for a significant portion of the variance (X^2 = 6.30, p = .391, *Nag* R^2 = .03).

A logistic regression was then conducted on the dependent variable of motivation. Results of this analysis are summarized in Table 7. Analysis indicated that the predictor variables did not account for a significant portion of the variance (X^2 = 5.32, p = .499, *Nag* R^2 = .04).

Reaction. A logistic regression was then conducted on the dependent variable of reaction. Results of this analysis are summarized in Table 8. Analysis indicated that the predictor variables did not account for a significant portion of the variance (X^2 = 8.93, p = .178, *Nag* R^2 = .04).

A logistic regression was then conducted on the dependent variable of reaction. Results of this analysis are summarized in Table 8. Analysis indicated that the predictor variables did not account for a significant portion of the variance, however, it was trending in that direction (X^2 = 10.42, p = .108, *Nag* R^2 = .08).

Overall findings. As was shown with the above analyses, for the first modification, the regressions on the outlier-excluded data, did not statistically differ from the regressions on the full (i.e. outlier included) data. The logistic regressions were only significant for location, but not motivation or reaction.

As was shown with the above analyses, for the subsequent modification, the regressions on the outlier-excluded data, did not statistically differ from the regressions on the full (i.e. outlier included) data, with the exception of the reaction variable. In the full dataset, the logistic regression on the reaction variable is statistically significant, however, on the outlier-excluded dataset, the regression is only trending towards significance.

Exploratory Analyses

Given the lack of significant findings, it was thought that this might, perhaps, be due to a lack of differences in means of the predictor variables between groups. That is, for example, perhaps LOC was not significant in the logistic regression on location, because there were no significant differences in mean LOC scores between the concealable location and the visible location groups. Therefore, an independent samples t-test was performed on LOC scores for the location groups on both the first modification and the subsequent modification. Analysis indicated that there were no significant differences in means for the first modification location, $t(362) = .201$, $p = .841$. Interestingly, there was a marginally significant difference for the subsequent modification location, $t(198) = 1.73$, $p = .085$, with those in the concealable only group showing lower LOC scores ($M = 11.31$, $SD = 4.56$) than those in the mixed or visible only group ($M = 12.42$, $SD = 4.47$).

Given the results in the pilot study regarding LOC, visibility, and handedness, a 2 X 2 between-subjects ANOVA was conducted on participants' first modification and then again on participants' subsequent modifications to see if similar results could be found in the primary study. However, the interaction was not significant for either ANOVA, all *p*'s > .134.

Independent samples t-tests were also performed on the NTB scale in terms of the motivation variable. Analysis on the first modification variable indicated that there were no significant differences in means, $t(364) = .377$, $p = .707$. Analysis on the subsequent modification variable also indicated that there were no significant differences in means, $t(202) = .363$, $p = .717$.

Aspects of Identity Questionnaire. Although there were no set hypotheses associated with the AIQ, it was thought that this measure might provide useful information, particularly regarding motivation. As previously mentioned, the AIQ subscales measure different aspects of identity, so it is possible that one or more of these subscales might be able to predict the outcome of the motivation variable, whereas the NTB scale might not, as it only measures one form of identity. Logistic regressions were conducted on the first modification and subsequent modification variables of motivation, using the five AIQ subscales as predictors. Prior to these exploratory analyses, the predictor variables were assessed for collinearity. Collinearity analyses found no evidence of collinearity in the predictor variables with the highest variance inflation factor (VIF) being 2.857. Therefore, it can be assumed that there is no collinearity between the predictors. The results of these logistic regressions are summarized in Table 9.

For the first modification variable, analysis indicated that the predictor variables did not account for a significant portion of the variance, (X^2 = 5.46, p = .363, *Nag* R^2 = .022). On the other hand, analysis on the subsequent modification variable was significant, (X^2 = 13.59, p = .018, *Nag* R^2 = .098). Analysis indicated that the predictor AIQ_Personal subscale was significant, indicating that those who were more likely to place an emphasis on who they were, and what is important to themselves as a person, were more likely to report an identity based motivation. Analysis also indicated that the predictor AIQ_Relational subscale was significant, indicating those who place more of an emphasis on more intimate relationships, were more likely to report a mark based motivation. Furthermore, analysis indicated that the predictor AIQ_Superficial subscale was marginally significant, indicating that those who place more an emphasis on the surface appearance of the self, in relation to how others perceive these qualities, were more likely to report a mark based motivation.

Finally, given the considerable range of numbers of body modifications, it was thought that there might be a relationship between number of body modifications and the personality scales of LOC, EHI, NTB, and RWA, such that the personality scores might influence number of body modifications. Then independent samples t-tests were conducted, using number of body modifications as the dependent variable. Analyses were conducted using number of tattoos, number of piercings, and then finally with total number of body modification. However, all analyses were not significant.

Chapter Eight

General Discussion

In order to help organize the discussion, as well as aid the reader in recalling the specifics of the research questions and hypotheses for the primary study, I have provided the exact text of both the research questions and the hypotheses. As these were the main elements in the primary study, the results for their corresponding analyses will be discussed first. Afterwards, I will highlight a few trends in the data that I found noteworthy. Finally, I will address the limitations for this study, as well as future directions of research.

Research Question #1. Can body modification visibility, motivation for choosing to get the body modification, and reaction from others be predicted by certain personality traits?

Hypothesis #1. It is hypothesized that participants' locus of control scores will predict body modification location. Specifically, it is hypothesized that external locus of control will be associated with more visible body modifications. This hypothesis was tested by collecting information about body modification location from participants, categorizing this information into either a concealable or a visible placement, and then conducting a logistic regression using location as the dependent variable, and the personality scales as predictors. Although the hypothesis does not specify differences or similarities for first modification versus subsequent modifications, I will highlight the findings of both analyses here. For the first modification regression on location, although the overall regression equation was statistically significant, this was almost entirely due to the presence of the age at first modification variable, and was not

due to locus of control scores. In fact, the exploratory t-test illustrated that there were no significant differences in locus of control scores between the concealable and visible groups in the primary study.

Furthermore, when the subsequent modifications were examined, although once again the overall regression equation was statistically significant, this was again almost entirely due to the presence of the first modification age variable, as well as the right-wing authoritarianism predictor. However, unlike the first modification variable, when an independent samples t-test was conducted on the subsequent modifications variable, there was a marginal difference between groups, showing the same pattern of results as was found in the pilot study, where participants with more visible body modifications displayed a slightly more external locus of control. Overall, this hypothesis was not supported for the first modification, and while subtle differences were found for subsequent modifications, other predictors proved to be more effective.

Interpretations. It was originally expected that those with an internal locus of control would be more likely to also have a concealable body modification, and alternatively, those with an external locus of control would be more likely to have a visible body modification. This was partly due to the results of the pilot study. However, it also fit with the research on locus of control and perceived discrimination. For example, in a study looking at perceived sexism and locus of control, women with an internal locus of control were more likely to perceive that that had been a victim of sexual discrimination (Lanier & Barnett, 1996). Therefore, due to the stigma associated with body modifications, as well as this seemingly heightened awareness of the possibilities of

perceived discrimination, it was hypothesized that these individuals would be more likely to get a concealable body modification.

It was surprising that this finding was not found in the primary study. Locus of control was not a significant predictor of body modification placement. It is possible that with the changing attitudes toward body modifications, the fear of a discriminatory act has been greatly reduced. Therefore, some participants who had a more internal locus of control may be just as likely of getting a visible body modification now that this threat has been reduced.

Given the results of the pilot study, it was surprising that similar results were not found in the primary study in terms of locus of control. It is possible that while this was not a true replication, the replication done by the primary study showed that there might be an issue with the results of the pilot study. Conversely, although this was not found to be significant in the logistic regression, the pattern found by the t-test on the subsequent modifications mimicked the pattern found in the pilot study, in that participants with a more external LOC tended to have more visible body modifications. This might be important in that the pattern found for the subsequent modifications might be similar to an element that was also hit on with the pilot study, such that in the pilot study I did not specify that participants only write about their first modification, but rather asked in general about the locations of the modifications. Therefore, the location variable for the pilot would be very similar to the location variable for the subsequent modifications. This might explain why there were differences in means for the subsequent modifications, but not for the first modification, as it is possible that there is something else affecting location for the first modification. Given the findings of the age at first

modification variable, it could be that this drove the location for first modification entirely, particularly for those participants who received their first modification years ago.

Although the variable was not part of this particular hypothesis, the inclusion of the age at first modification variable was a valuable addition as a predictor, for both the first modification and the subsequent modification location variables. The importance of this variable will be discussed later on.

Hypothesis #2. It is hypothesized that participants' scores on need to belong will predict motivation for choosing a body modification. Specifically, it is hypothesized that higher need to belong scores will predict a more identity-centric motivation. This hypothesis was tested by having participants reflect back to when they got their modifications and "check off" any motivations that matched from the list provided, as well as use the "other" option. These motivations were then categorized into "mark based" motivations, where the body modification was more reflective of elements such as commemoration, or aesthetic appearance, and "identity based" motivations, where the body modification was more reflective of wanting to stand out from others, or wanting to show an aspect of their identity to a group. Logistic regressions were then conducted using the first modification as one dependent variable, and subsequent modifications as a second dependent variable. Both logistic regressions were found to be not statistically significant. When follow-up t-tests were conducted, using the need to belong scale, both t-tests were also found to show no significant differences in means between the two groups. Therefore, there was no support for this hypothesis.

Interpretations. Although it was thought that need to belong might be a good predictor of identity centric motivation, this turned out to not be the case for participants' first modification or subsequent modifications. Furthermore, there seemed to be no difference in motivation regarding participants' need to belong.

Although other researchers (Antoszewski et al., 2010) have found different motivations for getting a body modification, it is possible that there is no relationship between one's need to belong and identity-centric motivations. Although some of the motivations do have an identity centered leaning, perhaps this is not related to the body modification at all and rather related to some other factor. For example, perhaps one's identity-based motivation is actually related to a feeling of power, or control, rather than identity.

Conversely, it is possible that while the need to belong does hint at an element of social identity theory, it is possible that this particular scale did not touch this specific construct. Therefore, while the scale measures one's need to belong, it might not adequately measure one's need to belong to a specific group, or to the type of group important for the body modified community. As such when construct validity analyses on this specific scale examined constructs such as need to be affiliated with others, analyses indicated that while these constructs were related to one's need to belong, the relationship was not strong (Leary et al., 2013).

This possibility appears stronger given that some of the AIQ subscales seemed to show a predictive ability for the subsequent motivation variable. Given that these subscales were able to tap into certain constructs that might be important in terms of one's motivation for body modifications, it is possible that the need to belong scale was

simply not an adequate scale for predicting motivation. However, it should be pointed out that it is too early to make any definitive claims and as such this possibility should be looked at with a caution until follow up studies can examine any links between the AIQ subscales and motivations behind body modifications.

While general social identity theory was used as a possible theory that explains the motivations behind body modifications, it may be too simplistic in nature. One of the extensions to social identity theory that may help further explain this motivation element is optimal distinctiveness theory (ODT: Brewer, 1991). According to ODT, people not only have a need to belong to a group, and go through the self-categorization process to find an ingroup and an outgroup, but they also have a need to feel distinct from the outgroup. That is, while we have a need to belong, we also have a need for uniqueness. Moreover, according to ODT, we search for appropriate ingroups and outgroups in order to find an optimal balance between the two. That is, we do not want to belong to an ingroup that is very similar to an outgroup, because while we have met the social categorization element, we have not fully satisfied our need to be different. Conversely, we do not want to only slightly belong to an ingroup that is very distinct from an outgroup. Both need to be in balance. Finally, unlike social identity theory which posits that by becoming a part of the ingroup, we can use the wins of the group as a self-enhancer, thereby raising our self-esteem when our group performs well, according to ODT, this element does not exist. Instead of seeing our self-concept rise with the group's, our self-concept is associated with finding an optimally distinct group, and the achievement of finding this group will result in a positive self-concept.

In terms of body modifications, it was already mentioned that those without body modifications seem to be harsher against those with body modifications, however, those with body modifications do not seem to perceive any differences between the two groups (Burgess & Clark, 2010). This may be an example of ODT. Those without body modifications seem to have categorized themselves as in a different group than those with body modifications, and as such as clearly categorized the body modified community as the outgroup. Furthermore, according to ODT, those without modifications may have found that they can feel the most distinct from the body modified community, which would explain the negative perceptions they show toward the modified community. Alternatively, those in the body modified community may not feel optimally distinct from the non-modified community, which would explain why members of this community do not seem to show any differences between the modified and non-modified communities.

However, context is an important factor that should not go unnoted. The need to be distinct, as stated in ODT, is one motive for people to interpret their ingroup differently from their outgroup, but it is not the only motive. According social identity complexity theory (Roccas & Brewer, 2002), because we are a member of numerous ingroups, there is a subjective element in that the way these identities are combined will determine the inclusivity of our ingroup memberships. How these identities are integrated, ranging from separate identities to one main identity composed of smaller identities, can affect who we view as our outgroup, and how we relate to them (Brewer & Pierce, 2005).

This element may complicate research with the body modified community as the situational context might determine one's ingroups and outgroups. If our Michigan fan views his identities as separate and is talking to other Michigan fans, then his body modification might help show his allegiance to Michigan as well as his distinctiveness from Ohio State. Moreover, if this individual is in the presence of other tattooed individuals, then the body modification might show his identity to the tattooed community, and his distinctiveness from the non-modified community. Alternatively, if this individual views his identities as highly integrated, such that he views his ingroup as tattooed Michigan fans, then his outgroup would be everyone who does not fit this persona – including non-tattooed Michigan fans.

While this social identity complexity theory was not examined in the present studies, this idea should not be overlooked. This study was comprised of people with multiple social identities, and while questions were asked about identity as a whole, overlap of identities was not evaluated. It is possible that this element might have played a role in a possible motivation-identity link. At this point, it is still possible that social identity theory, or the social identity approach, might help explain differences in motivation, but more research will need to be done.

Reaction. Although there was not a set hypothesis for reaction, this variable should be briefly discussed. None of the predictors were able to significantly predict others' reactions to participants' first modification. However, several of the predictors were able to significantly predict the reaction from others to participants' subsequent modifications. Specifically, right-wing authoritarianism was able to predict reaction. This particular predictor will be discussed later on, as other trends were found with the

RWA scale. However, one thing should be mentioned with the reaction variable. The background behind the reaction variable is not as clear as it is for the other variables, which is partly why there were no set hypotheses for this variable. This is because, this variable does not reflect the participants' reaction, but rather the actions of others towards the participant. Therefore, this variable involves not only the memory of the participant, but it also involves the participant's perceptions of the reaction they received. Because of this, there is a great amount of subjectivity in this variable. This does not mean that the results from this variable are not important, but rather their interpretation may not be as straightforward as one would like.

To put this another way, the subsequent modification regression found that participants with higher RWA scores were more likely to receive an all positive reaction from others. This is different from saying that participants with higher RWA scores were more likely to respond positively towards others. While there is a relationship between participant RWA scores, and the reaction they received, there may be other factors at play here. This possibility will be discussed later on when the findings on the RWA scale are covered.

Research Question #2. Is there a difference in motivation between an individual's first body modification and subsequent modifications?

As highlighted in Hypothesis #2, both of the logistic regressions on the motivation variable turned out to be not significant. Therefore, there were no differences in motivation between an individual's first body modification and subsequent modifications, at least in terms of the main predictors of LOC, EHI, RWA, and NTB.

However, given the exploratory nature of this research question, when the AIQ subscales were analyzed in terms of motivation, a difference emerged between the first modification and subsequent modifications. Although there were no significant predictors of motivation for the first modification, there were several significant predictors of motivation for the subsequent modifications.

Interpretations. While location was part of the pilot study, the primary study was the first time the motivation variable was examined, which is partly why there was not a set hypothesis for this variable. It was thought that one's motivation might change from the first modification to subsequent modifications, and this change would then be reflected in the logistic regressions. However, no discernable pattern emerged. It is possible that motivations do not change from first to subsequent modifications. Alternatively, it is possible that these changes do occur, however, the method used in this study was not specific enough to detect these changes.

On the other hand, differences were shown with the AIQ subscales. So it is possible that the predictors used in the main analyses were simply not touching the correct constructs, similar to the possible explanation for the need to belong scale. Given that the motivation angle is measuring one's identity, perhaps locus of control, handedness, and right-wing authoritarianism were not key predictors in determining motivation as they might not touch on the right constructs. There seems to be something different with the AIQ subscales in that they did find differences between the first and subsequent modification variables. In terms of the findings of the AIQ subscales, although it was surprising that the AIQ collective subscale did not show significant results, as this subscale should indicate a collective identity (Cheek, 2003), perhaps this

subscale was not significant as this collective nature might not be as critical for body modifications as some of the other types of identity. Meanwhile, the other subscales did show results that were consistent based on the type of identity they represent. Both the superficial and relational subscales measure a different construct than the personal subscale, as the personal subscale is more about one's personal identity and its importance to the individual, whereas the other two scales measure identities with specific types of relationships or perceptions. Therefore, it made sense that the relational subscale was mark based, as this would fit in line with the idea of commemoration, and the superficial subscale was also mark based, as this would fit in line with the idea of how others might interpret a mark.

What is still unclear is why these differences were only found for the subsequent modifications and not the first modification. It could simply be that motivations change from the primary to subsequent modifications. However, there might be other possibilities here. Perhaps these differences are due to the nature of the motivation variable itself. Given that the subsequent modifications variable incorporated 1-9 modifications, whereas the first modification variable only examined one modification, it is possible that the addition of other modifications was able to paint a clearer picture of this variable, which was lost with the primary modification variable. Obviously, there are many questions regarding this variable and any differences between the first and subsequent modifications, and as such more research will need to be conducted in this area before the results are clearer.

Notable Trends

Although evidence was not found for the hypotheses, several trends were found in the data that should not go unnoticed.

First Modification Age. First, the inclusion of the modification age ended up being key to the significance of location, particularly when examining one's first modification. This variable showed that the longer ago someone got a body modification, the more likely it was in a concealable area.

Given the stigma surrounding body modifications in the past, this finding was not that surprising. However, it does leave evidence that, as the times have changed, people are more comfortable with getting body modifications in "permanently" visible areas. Society in general seems to be becoming more accepting of body modifications (Forbes, 2001), and as such people seem to be no longer as fearful that a visible tattoo could mean an increase in stigma. Therefore, it would appear to be a cohort effect. However, even if this is "simply" a cohort effect, the inclusion of this type of variable could be useful in future studies on body modifications, particularly for researchers looking to examine location. Moreover, the inclusion of this variable could also be useful for researchers who elect to use recruiting places like Mturk that cater to adults of all ages rather than a traditional college campus subject pool, given that the average age of a Mturk worker tends to be slightly to considerably older (Paolacci & Chandler, 2011) than what is typically found in a college sample. Researchers should be aware of the cohort effect, and might need to find a way to either adjust or control for it if they plan to use an older sample when researching body modifications.

Right Wing Authoritarianism. Although no specific hypotheses or research questions were constructed for the RWA variable, an interesting trend appeared. While

RWA was not significant for any of the first modification variables, it was significant for both location, and reaction for the subsequent modification variables. First, in terms of location, participants with a higher RWA score, that is those who were more likely to endorse right-wing authoritarianism beliefs, were more likely to have a concealable body modification. Those who are high in RWA beliefs believe strongly in social order, and obedience to authority (Altemeyer, 1998). Because body modifications still carry a stigma, adopting a body modification would be contrary to these beliefs. However, a loophole for some people might be to still get a body modification but make sure it is in a concealed area, thereby still showing an outward appearance for obeying societal norms, while being able to still maintain a small amount of individuality, or even group identity, quietly.

For example, although some Neo-Nazi group members tend to be very blatant regarding their identity as a member of this group, others are more subtle. Even the Ku Klux Klan, while an extremely salient group in their "formal dress" maintain their individual anonymities by covering their faces and bodies. Relatedly, although many tend to think of Neo-Nazi Skinheads as visibly heavily tattooed, researchers have found that this group has been going through a movement to tone down and normalize their appearance (Cooter, 2006). This normalization attempt includes things such has concealing their tattooed arms by wearing long sleeved clothes to even questioning if tattoos representing the views of this group should be encouraged (Cooter, 2006). Given that many of the articles on this subject were written over a decade ago, plus the re-emergence of neo Nazi type groups given the current political climate, it is possible that

the primary study picked up on this trend. However, it is unclear at this point if this is evidence of this trend, or of other factors are to play.

In terms of reaction, those who scored high on the RWA scale, also tended to receive a positive reaction from others regarding their body modification. Given the typical concealable nature of those high in RWA, it seems possible that the positive reaction is due to the idea that these individuals would only display their body modifications to a select group of individuals. Therefore, they typically received an all positive reaction because they were able to carefully select the people they wanted to see the modification. Why this variable only showed these trends in the subsequent modifications regression is unclear however, and as such more research will need to be done on this variable.

Outliers. As it mentioned earlier, seven participants reported having a significant amount of tattoos. These numbers were high enough where it was questioned whether these outliers could be trusted in the dataset. Therefore, the main analyses were ran with these outliers and again without. Results found that in this sample, these outliers did not affect the results in 5/6 of the logistic regressions. The only regression that was affected by these results turned out to be the one using the subsequent modifications reaction variable. It is possible that due to the nature of this variable, such that one's personality traits might have directly or indirectly affected the reaction others had, rather than being a direct link, this difference may not be as important. If a difference had been found with the location or motivation variables, it is very possible then that these outliers might have significantly skewed the results. However, given that the relationship with reaction variable may not be as straightforward, it is possible that while these higher scores did

affect the overall regression, it might not be as worrisome. However, that does not mean that this difference should be outwardly dismissed. It is possible that these outliers may have affected the results of this variable, and as such caution should be made when interpreting the regression using the full dataset.

Furthermore, it is still unclear whether these outliers represent mere noise in the data, causing the regression to go from statistically significant in the full dataset to non-significant when the outliers were removed, or if these outliers represent a truer embodiment of the body modified community. Given that this only involved seven participants, it would be near impossible to make a certain case for either argument. Therefore, it is advised that researchers take this dilemma into account if they are ever presented with a similar situation.

Personality traits. As has already been mentioned, this is the first study to examine differences within the body modified community. Additionally, most of the results examining differences within the body modified community were not significant. It is possible that this might be a side effect of the so-called file-drawer problem. By this I mean that, perhaps the reason why studies examining differences within the body modified community have not been published, is due to the possibility that the studies on this topic found null results and were not publishable. While I do admit that this is controversial, it would give an explanation to why other researchers have solely focused on differences between the body modified and non-modified communities but have so far ignored the possible differences within the community. Perhaps that some researchers have attempted to study differences within the body modified community itself but have also come up short in terms of significant findings.

Limitations

As with all studies, there with several limitations to these studies which are outlined below.

Question format and wording. When it came to the motivation variable, participants were given several options to choose from (see Appendix B) or they could input their own reason for why they chose to get that specific body modification. Furthermore, these options also matched the motivations listed by other researchers (Antoszewski et al., 2010; Wohlrab et al., 2007). Given that there might be more than one reason for a particular motivation, I allowed participants to click on as many reasons as they wanted for each modification. This was done because while a forced choice approach would have been cleaner in terms of analysis, it would not have provided a richer dataset, as the check-all approach allowed, although some researchers (Smyth, Dillman, Christian, & Stern, 2006) might disagree. Nevertheless, for the purposes of this study, I decided to allow for a check-all approach.

However, it was only when the data were being cleaned that I became aware of a potential wording issue for the motivation variable. One of the choices for the motivation variable was, "I liked how it looked," which I had included for participants who mainly got their tattoo, for example, for aesthetic reasons, one of the main motivations listed by previous researchers (Antoszewski et al., 2010). This was to help separate those who received a body modification for a mark-based reason, versus those who obtained them due to identity-based reasons (i.e. I got it to show that I'm a member of a certain group). However, as I was going through the data I realized that due to the check-all format, most of the participants checked this option. For example, when only examining participants

who stated that they had at least one tattoo, 183 participants checked this option, compared to 144 who did not. Given that there were 327 participants who indicated they had at least one tattoo, and provided information to this question, this would indicate that over half of these participants (56%) selected this option. It was only at this point, after data collection had finished, that I realized that the wording of this question, plus the check-all format, may have biased the data for this variable. This is due to a simple reason that people are not going to choose to get a tattoo or piercing of something they hate. If someone is going to go through the effort to get that body modification, and in the case of a tattoo, pay several hundreds of dollars, they are going to get something that they like in terms of aesthetics. Therefore, if a check-all format is used in future studies, all attempts should be made to try and avoid this situation. While it is impossible to state that this issue is the reason why the analyses on the motivation variable did not turn out, it definitely is a possibility.

Motivations. In addition to the question wording issue is this broader viewpoint about motivations in general. While researchers like to directly ask participants about their motives for a particular action or behavior, studies have found that participants may not be consciously aware of the motives behind certain actions or behaviors (Nisbett & Wilson, 1977). Thus, when asked about a certain action, participants may attempt to determine their reasoning only after the fact, perhaps specifically because they were asked. By doing this, it is entirely possible that many "motivations" listed by participants, in this sample, but also in others, may not be the true motivations. This does not mean that the participants are intentionally lying with their response, although that

could be true for at least some participants, but when it comes to the majority, while they might truly believe that their answer was their true intention, it might be wrong.

This becomes especially complicated when time is added to this equation. When I asked participants about the motivations for their first modification, based on the data from the FModAge variable, some participants only had to remember back a few months, whereas other participants had to go back decades to recall their motivations. Not only is it hard to remember one's motivation for a specific action, but it is especially hard to remember one's motivation for an action that occurred years ago. Very easily one's motivation could have changed from "my friends pushed me into getting it" to "I did it to show I'm unique/different from everyone" without the participant being consciously aware. This is not to say that motivation type questions should be avoided by researchers, however, caution should be used in interpretation. In the case of this study, this limitation might help explain the lack of any effect with the motivation variable, although it would be hard to confirm in any way.

Visibility. In both the pilot and primary study, the topic of visibility of body modification was analyzed. Visibility was based off of placement of the body modification and perceived as concealable if the location could easily be covered up by clothing, or visible if the location would be extremely hard, if not nearly impossible, to keep covered. However, this rating system was somewhat subjective, and without other information, it is impossible to know if someone's tattoo on their wrist, an area that was considered "visible" is actually a visible body modification. It should be noted, that while participants were asked about the location of their tattoos, they were not asked about the size. Therefore, one could in theory have a visible tattoo, in terms of the

system used for these studies, and yet have it be so small that it would not be noticeable to others. Conversely, one could have a large, and therefore extremely visible tattoo in the same location, and also be classified as "visible".

Moreover, there might also be a regional issue here, in that locations considered concealable in one region, would be considered visible in another. Specifically, the climate of one region could determine whether a location on one's body is more visible to others than in another region. For example, people who live in a hotter climate might spend more of their time in tank tops and shorts/skirts, whereas people in a colder climate might wear longer sleeves and longer pants. Therefore, while the upper arm was considered a concealable location for these studies, this might partly be due to the fact that I live in a region that is cold for a considerable part of the year, and spend most of that time covered with long sleeves. However, if I were to live in a hotter climate, I might feel that the upper arm should be considered a more visible area. This brings up two issues: 1. The subjectivity of the rating system itself, and 2. The location of the participant, specifically when the body modification was obtained. While the subjectivity of the rating system has been addressed, the second issue should be briefly discussed.

It is possible that not only is location of body modification important, but so is the location (i.e. climate) of the participant when he/she got the body modification. A person who gets an upper arm tattoo in a warmer climate might be more of a "true" visible body modified person than one from a colder climate. As participants were not asked about their regional location when each body modification was added in these studies, this possibility could not be addressed here, but could be addressed in future studies.

Furthermore, while location was assessed as a motive, in that there was an implied assumption that participants specifically chose to get a tattoo in a certain region due to its ability to be concealed, or not, this motive was never specifically brought up with participants. That is, participants were never asked if they chose the specific location for their tattoo due to its concealability or visibility. While a question of this nature could run into some of the same issues the motivation question brought up in terms of participants being aware of their motives (Nisbett & Wilson, 1977), it would be one way to adjust for this untested assumption.

Coding. Finally, it should be acknowledged that the coding strategy involved for location, motivation, and reaction, does have a subjective element to it. While great care was taken to come up with an appropriate coding strategy, other options could have been used. Specifically, when it came to the coding of the motivation variable, I essentially took 4-5 different types of motivations and collapsed them into two: mark-based and identity-based. This was done for several reasons, however, it should be noted that while I considered a commemorative modification as a "mark-based" motivation at the time of the proposal meeting for this dissertation, I have since rethought this approach. It is possible that a commemorative modification may be better suited in the "identity-based" motivation category, if a two category system is still used. However, it is possible that perhaps a three category approach should be used with the aesthetic motivation being considered "mark-based", commemorative motivations and "wanting to show I belong to a group" considered as "social identity-based", and "wanting to show that I'm unique from others" considered as "unique identity-based". Alternatively, perhaps other types of

category breakdowns should be used. Further research will need to be done in order to find the most appropriate type of categorization for this type of study.

Future Research

First, future studies will examine other personality scales, to see if there are any differences in location, motivation, reaction, as well as other motives. Although the primary study did not find many differences in traits within the body modified community, it does not mean that those differences do not exist. It is possible that scales measuring other constructs might better tap into these theoretical differences. For example, the need for uniqueness has been found to show differences between the body modified and non-modified communities (Swami, 2012; Tate & Shelton, 2008), therefore, it is possible that results might be found within the body modified community. Perhaps, those who have a higher need for uniqueness are more likely to have visible body modifications, compared to those who do not have a high need for uniqueness.

Second, while the topic of the primary study was focused on differences within the body modified community, differences between the body modified and the non-modified communities should still be examined. While there did not seem to be much of a difference in means for some of the scales used in these studies, it is possible that some differences might be found between the two groups. For instance, there might be a difference in need to belong when the two groups are compared, when only a marginal one for reaction was found within the body modified community.

Third, as mentioned in the limitations, one of the issues with these studies was the way the location variable was examined. A possible way to get a better idea of body modification visibility would be to ask participants directly about the visibility of their

body modifications. Therefore, future studies would examine participants' self-perception of the visibility of their own body modifications. Participants could be asked how often their body modifications are visible, or the degree of visibility. Furthermore, questions could examine if they attempt to conceal their body modifications in various settings (e.g. work, special occasions, around "strict" family members, etc.), as well as ask participants if they intended to conceal their modification when they originally got it, or not. Or if their concerns about concealment have changed over time, as this might help address changes in society, or even in the participant himself as he has aged.

Finally, although not directly stated, one of the main motivations for the two studies on this topics relates to one of my future directions of research. Although it has been discussed that there is stigma surrounding the body modified community, I believe that the stigma facing this group is different than the stigma that faces groups for things like their race/ethnicity, mental health issues, weight issues, or even sexual orientation. All of those things involve a situation in which the individual is forced to deal with the stigmatizing attribute. We cannot control whether or not we have a mental health disorder, or we cannot control our sexual orientation. However, people with body modifications also face stigma, and yet these people made the choice, knowing the stigma associated with body modifications, to adopt a body modification. Because of this, I believe that this is a different type of stigma than then general types out in the literature today. I have termed this an adopted stigma.

Although this concept is still in its infancy, I believe that body modifications might fall under this concept, whereby not everyone with a body modification has an adopted stigma, but some members of the community might. However, before this

concept can be thoroughly researched and simplified, more research on body modifications in general needs to be conducted. Only once the holes in the body modification literature are filled can the work on this idea of adopted stigmas begin.

Chapter Nine

Implications and Conclusions

The primary study was one of the first studies looking at individual differences within the body modified community. This study looked at several elements of body modifications, many of which have been glossed over in previous studies. Furthermore, this study examined possible differences between the first modification, and any subsequent modifications. Although no support was shown for the hypotheses, this study revealed several important things for future researchers to keep in mind.

First, other personality traits should be considered. The majority of previous research has focused on personality traits like the Big Five, with very few other traits being examined. The current studies examined other personality traits to see if there were differences between and within groups. Although not every personality trait was effective at showing significant differences, it is important to continue researching other traits in order to get a better idea of the body modified community. Moreover, researchers should also continue to study differences between the modified and non-modified communities.

Second, the addition of the age at first modification variable was shown to be a key element when predicting modification location. Researchers who plan on examining location of modifications, or who plan on using samples that are not limited to college students, should consider using a variable like this in their analyses, even as a covariate, as it might help with analyses.

Third, differences between first and subsequent modifications should be examined by researchers, particularly when examining motivation. The primary study was the first

study to break down body modifications into the first modification versus subsequent modifications, which resulted in differences in ability to predict motivation, as well as location, and reaction, for several of the predictor variables. It is advisable for future studies to consider this factor when examining the body modified community as differences might appear for various elements regarding first versus subsequent motivations.

Overall, little attention has been paid to the body modified community, with the majority of studies examining psychopathological differences. As the percentage of body modified individuals continue to increase, and as body modifications themselves become more favorable to society, it is important that researchers continue to conduct studies on this topic. While body modifications are no longer necessarily associated with deviance, more can be learned about the individuals who decide to adorn their body with one or more body modifications. Implications for these studies could include things such as personality traits, ways one's identity is bolstered, to even coping strategies. If over one quarter of the United States population has at least one body modification (Laumann & Derick, 2006) then researchers should start paying more attention to this group as a whole.

Table 1. Body Modification Numbers by Type of Modification.

	Participants' Answer	
	Yes	No
Tattoos (at least…)		
One	328	53
Two	166	215
Three	96	285
Four	67	314
Five	44	337
Piercings (at least…)		
One	216	165
Two	78	303
Three	33	348
Four	13	368
Five	7	374

Table 2. Correlations among Dependent Variables.

	1	2	3	4	5	6
1 First Mod Location	-	.				
2 First Mod Motivation	.11*	-				
3 First Mod Reaction	.02	.12*	-			
4 Sub. Mod Location	-.02	.06	.05	-		
5 Sub. Mod Motivation	.10	.27***	.07	.20**	-	
6 Sub. Mod Reaction	-.01	.12	.41***	.01	.16*	-

Notes. *N*'s range from 189 to 364 as many participants only had one modification.

Sub. = Subsequent

*$p < .05$, ** $p < .01$, *** $p < .001$

Table 3. Summary Logistic Regression Results for Location.

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .11, X^2 = 28.92***		Nag. R^2 = .16, X^2 = 24.13***	
LOC	-.007	1.00 (CI: .94, 1.05)	.034	1.04 (CI: .96, 1.11)
EHI	-.004	1.00 (CI: .99, 1.01)	-.005	1.00 (CI: .98, 1.01)
NTB	.004	1.00 (CI: .97, 1.04)	.003	1.00 (CI: .97, 1.04)
RWA	-.002	1.00 (CI: .99, 1.00)	-.011***	.99 (CI: .98, 1.00)
Gender	.269	1.31 (CI: .79, 2.18)	-.499	.61 (CI: .30, 1.23)
FModAge	-.077***	.93 (CI: .90, .96)	-.046*	.96 (CI: .92, .99)

Note: *$p < .05$, *** $p < .001$

Table 4. Summary Logistic Regression Results for Motivation.

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .02, X^2 = 5.86		Nag. R^2 = .05, X^2 = 6.41	
LOC	-.036	.97 (CI: .91, 1.02)	.023	1.02 (CI: .95, 1.10)
EHI	.007	1.01 (CI: 1.00, 1.02)	-.003	1.00 (CI: .98, 1.01)
NTB	.009	1.01 (CI: .98, 1.04)	.006	1.01 (CI: .97, 1.05)
RWA	-.003	1.00 (CI: .99, 1.00)	-.008	.99 (CI: .98, 1.00)
Gender	.133	1.14 (CI: .67, 1.95)	-.079	.92 (CI: .41, 2.09)
FModAge	-.005	.19 (CI: .97, 1.02)	.004	1.00 (CI: .96, 1.05)

Table 5. Summary Logistic Regression Results for Reaction.

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .032, X^2 = 7.99		Nag. R^2 = .09, X^2 = 12.89*	
LOC	.012	.67 (CI: .96, 1.07)	.069†	1.07 (CI: .99, 1.16)
EHI	.011*	1.01 (CI: 1.00, 1.02)	.004	1.00 (CI: .99, 1.02)
NTB	.003	1.00 (CI: .97, 1.04)	-.039	.96 (CI: .92, 1.01)
RWA	.000	1.48 (CI: 1.00, 1.01)	-.008*	.99 (CI: .99, 1.00)
Gender	.395	.99 (CI: .85, 2.61)	-.138	.87 (CI: .41, 1.84)
FModAge	-.015	1.49 (CI: .96, 1.01)	-.003	1.00 (CI: .96, 1.04)

Note: †p < .10, *p < .05

Table 6. Summary Logistic Regression Results for Location without Outliers

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .12, X^2 = 30.41***		Nag. R^2 = .14, X^2 = 21.01**	
LOC	-.004	1.00 (CI: .94, 1.05)	.033	1.03 (CI: .96, 1.11)
EHI	-.004	1.00 (CI: .97, 1.04)	-.006	.99 (CI: .98, 1.01)
NTB	.002	1.00 (CI: .99, 1.00)	.006	1.01 (CI: .97, 1.05)
RWA	-.002	1.00 (CI: .99, 1.00)	-.01**	.99 (CI: .98, 1.00)
Gender	.270	1.31 (CI: .78, 2.19)	-.422	.66 (CI: .32, 1.33)
FModAge	-.80***	.93 (CI: .89, .96)	-.045*	.96 (CI: .92, .99)

Note: *$p < .05$, ** $p < .01$, *** $p < .001$

Table 7. Summary Logistic Regression Results for Motivation without Outliers.

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .03, X^2 = 6.30		Nag. R^2 = .07, X^2 = 10.42	
LOC	-.035	.97 (CI: .91, 1.02)	.068	1.07 (CI: .99, 1.16)
EHI	.007	1.01 (CI: 1.00, 1.02)	.004	1.00 (CI: .99, 1.02)
NTB	.009	1.10 (CI: .98, 1.04)	-.038	.96 (CI: .92, 1.01)
RWA	-.003	1.00 (CI: .99, 1.00)	-.007*	.99 (CI: .99, 1.00)
Gender	.115	1.12 (CI: .66, 1.92)	-.085	.92 (CI: .43, 1.96)
FModAge	-.005	1.00 (CI: .97, 1.02)	.000	1.00 (CI: .96, 1.04)

Note: *$p < .05$

Table 8. Summary Logistic Regression Results for Reaction without Outliers.

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .04, X^2 = 8.93		Nag. R^2 = .16, X^2 = 24.13***	
LOC	.011	1.01 (CI: .95, 1.07)	.034	1.04 (CI: .96, 1.11)
EHI	.012	1.01 (CI: 1.00, 1.02)	-.005	1.00 (CI: .98, 1.01)
NTB	.007	1.01 (CI: .97, 1.04)	.003	1.00 (CI: .97, 1.04)
RWA	.001	1.00 (CI: 1.00, 1.01)	-.011***	.99 (CI: .98, 1.00)
Gender	.433	1.54 (CI: .87, 2.74)	-.499	.61 (CI: .30, 1.23)
FModAge	-.014	.99 (CI: .906, 1.01)	-.046*	.96 (CI: .92, .99)

Note: *$p < .05$, *** $p < .001$

Table 9. Summary Logistic Regression Results for Motivation with the AIQ Subscales as Predictors.

	First Modification		Subsequent Modifications	
	B	OR	*B*	OR
	Nag. R^2 = .02, X^2 = 5.46		Nag. R^2 = .10, X^2 = 13.59*	
Personal	.046	1.05 (CI: 1.00, 1.10)	.112**	1.12 (CI: 1.04, 1.20)
Relational	-.005	.96 (CI: .96, 1.03)	-.065*	.94 (CI: .89, .99)
Collective	-.009	.99 (CI: .94, 1.04)	.039	1.04 (CI: .97, 1.12)
Superficial	-.022	.98 (CI: .89, 1.08)	-.127†	.88 (CI: .76, 1.02)
Social	.008	1.01 (CI: .94, 1.08)	.070	1.07 (CI: .97, 1.19)

Note: †p < .10, *p < .05, **p < .01

References

Altemeyer, B. (1981). *Right-wing authoritarianism.* Winnipeg, Ontario, Canada: University of Manitoba Press.

Altemeyer, B. (1998). The other 'authoritarian personality.' In M. Zanna (Ed.) *Advances in Experimental Social Psychology, 30* (pp. 47–92). San Diego: Academic Press.

Antoszewski, B., Sitek, A., Fijalkowska, M., Kasielska, A, & Kruk-Jeromin, J. (2010). Tattooing and body piercings – What motivates you to do it? *International Journal of Social Psychiatry, 56*(5), 471-479. doi: 10.1177/0020764009106253

Armstrong, M. L. (1991). Career-oriented women with tattoos. *IMAGE: Journal of Nursing Scholarship, 23*, 215-220. doi: 10.1111/j.1547-5069.1991.tb00674.x

Arsenault, A., Dolan, S. L., & Van Ameringen, M. R. (1991). Stress and mental strain in hospital work: Exploring the relationship beyond personality. *Journal of Organizational Behavior*, *12*(6), 483-493. doi: 10.1002/job.4030120603

Baumeister, R. F., & Leary, M. R. (1995). The need to belong: desire for interpersonal attachments as a fundamental human motivation. *Psychological Bulletin*, *117*(3), 497-529.

Benassi, V. A., Sweeney, P. D., & Dufour, C. L. (1988). Is there a relation between locus of control orientation and depression?. *Journal of Abnormal Psychology, 97*(3), 357-367. doi: 10.1037/0021-843X.97.3.357

Brewer, M. B. (1991). The social self: On being the same and different at the same time. *Personality and Social Psychology Bulletin, 17*(5), 475-482.

Brewer, M. B. (2003). *Intergroup Relations*. Philadelphia, PA: Open University Press

Brewer, M. B., & Pierce, K. P. (2005). Social identity complexity and outgroup tolerance. *Personality and Social Psychology Bulletin, 31*(3), 428-437. doi: 10.1177/0146167204271710

Buhrmester, M., Kwang, T., & Gosling, S. D. (2011). Amazon's Mechanical Turk: A new source of inexpensive, yet high-quality, data? *Perspectives on Psychological Science, 6*(1), 3-5. doi: 10.1177/1745691610393980

Burgess, M., & Clark, L. (2010). Do the "savage origins" of tattoos cast a prejudicial shadow on contemporary tattooed individuals? *Journal of Applied Social Psychology, 40*(3), 746-764. doi: 10.1111/j.1559-1816.2010.00596.x

Carroll, L., & Anderson, R. (2002). Body piercing, tattooing, self-esteem, and body investment in adolescent girls. *Adolescence, 37*(147), 627-637.

Cheek, J. M. (2003). *The Aspects of Identity Questionnaire: History and Bibliography*. Retrieved from http://academics.wellesley.edu/Psychology/Cheek/identity.html.

Cheek, J. M. & Briggs, S. R.. (2013). *Aspects of Identity Questionnaire (AIQ-IV)*. Measurement Instrument Database for the Social Science. Retrieved from www.midss.ie

Christman, S. (2014). Individual differences in personality as a function of degree of handedness: Consistent-handers are less sensation seeking, more authoritarian, and more sensitive to disgust. *Laterality: Asymmetries of Body, Brain and Cognition, 19*(3), 354-367. doi: 10.1080/1357650X.2013.838962

Christman, S., Bentle, M, & Niebauer, C. (2007). Handedness differences in body image distortion and eating disorder symptomatology. *International Journal of Eating Disorders, 40*(3), 247-256. doi: 10.1002/eat.20357

Cooter, A. B. (2006). Neo-Nazi Normalization: The Skinhead Movement and Integration into Normative Structures. *Sociological Inquiry, 76*(2), 145-165.

Crowne, D. P., & Marlowe, D. (1960). A new scale of social desirability independent of psychopathology. *Journal of Consulting Psychology*, *24*(4), 349-354. doi: 10.1037/h0047358

Degelman, D., & Price, N.D. (2002). Tattoos and ratings of personal characteristics. *Psychological Reports, 90,* 507-514. doi: 10.2466/pr0.90.2.507-514

Devine, P. G. (1989). Stereotypes and prejudice: their automatic and controlled components. *Journal of Personality and Social Psychology*, *56*(1), 5-18. doi: 10.1037//0022-3514.56.1.5

Dickson, L., Dukes, R., Smith, H., & Strapko, N. (2014). Stigma of ink: Tattoo attitudes among college students. *The Social Science Journal, 51*, 268-276. doi: 10.1016/j.soscij.2014.02.005

Dollinger, S. J., Preston, L. A., O'Brien, S. P., & DiLalla, D. L. (1996). Individuality and relatedness of the self: An autophotographic study. *Journal of Personality and Social Psychology*, 71, 1268-1278.) doi: 10.1037/0022-3514.71.6.1268

Faul, F., Erdfelder, E., Lang, A.-G., & Buchner, A. (2007). G*Power 3: A flexible statistical power analysis program for the social, behavioral, and biomedical sciences. *Behavior Research Methods, 39,* 175-191.

Faul, F., Erdfelder, E., Buchner, A., & Lang, A.-G. (2009). Statistical power analyses using G*Power 3.1: Tests for correlation and regression analyses. *Behavior Research Methods, 41*, 1149-1160.

Forbes, G. B. (2001). College students with tattoos and piercings: Motives, family experiences, personality factors, and perception by others. *Psychological Reports, 89*, 774-786. doi: 10.2466/pr0.2001.89.3.774

Funk, F., & Todorov, A. (2013). Criminal stereotypes in the courtroom: Facial tattoos affect guilt and punishment differently. *Psychology, Public Policy, and Law, 19*(4), 466-478. doi: 10.1037/a0034736

Goffman, E. (1963). *Stigma: Notes on the management of spoiled identity*. New York: Simon & Schuster.

Greif, J., Hewitt, W., & Armstrong, M. L. (1999). Tattooing and body piercing: Body art practices among college students. *Clinical Nursing Research, 8*, 368-385. doi: 10.1177/10547739922158368

Hasselton, M. G., & Nettle, D. (2006). The paranoid optimist: An integrative evolutionary model of cognitive biases. *Personality and Social Psychology Review, 10*, 47-66. doi: 10.1207/s15327957pspr1001_3

Hawkes, D., Senn, C. Y., & Thorn, C. (2004). Factors that influence attitudes toward women with tattoos. *Sex Roles, 50*, 593-604. doi: 10.1023/b:sers.0000027564.83353.06

Hicks, R.A., & Pellegrini, R.J. (1978). Handedness and locus of control. *Perceptual and Motor Skills, 46*, 369-370. doi: 10.2466/pms.1978.46.2.369

Hogg, M. A., & Williams, K. D. (2000). From *I* to *We*: Social identity and the collective self. *Group Dynamics: Theory, Research, and Practice, 4*(1), 81-97. doi: 10.1037//1089-2699.4.1.81

Hornsey, M. J.. (2008). Social identity theory and self-categorization theory: A historical review. *Social and Personality Psychology Compass, 2*(1), 204-222. doi: 10.1111/j.1751-9004.2007.00066.x

Kurzban, R., & Leary, M. R. (2001). Evolutionary origins of stigmatization: The functions of social exclusion. *Psychological Bulletin, 127*(2), 187-208. doi: 10.1037/0033-2909.127.2.187

Lanier, P. A., & Barnett, T. (1996). Locus of control and women's perceptions of sex discrimination. *Perceptual and Motor Skills*, *83*(3_suppl), 1256-1258.

Lapiere, R T. (1934). Attitude vs. Action. *Social Forces*. *13*, 230-237

Larsen, G., Patterson, M., & Markham, L. (2014). A deviant art: Tattoo-related stigma in an era of commodification. *Psychology and Marketing, 31*(8), 670-681. doi: 10.1002/mar.20727

Laumann, A. E., & Derick, A. J. (2006). Tattoos and body piercings in the United States: a national data set. *Journal of the American Academy of Dermatology*, *55*(3), 413-421. doi: 10.1016/j.jaad.2006.03.026

Leary, M. R., Kelly, K. M., Cottrell, C. A., & Schreindorfer, L. S. (2013). Construct validity of the need to belong scale: Mapping the nomological network. *Journal of Personality Assessment, 95*(6), 610-624. doi: 10.1080/00223891.2013.819511

Lefcourt, H.M. (1982). *Locus of Control: Current Trends in Theory and Research* (2nd ed.) NJ: Lawrence Erlbaum Associates.

Lefcourt, H.M. (1976). *Locus of Control: Current Trends in Theory and Research*. NJ: Lawrence Erlbaum Associates.

Luders, E., Cherbuin, N., Thompson, P. M., Gutman, B., Anstey, K. J., Sachdev, P., & Toga, A. W. (2010). When more is less: Associations between corpus callosum size and handedness lateralisation. *NeuroImage, 52*, 43–49. doi: 10.1016/j.neuroimage.2010.04.016

Millner, V. S., & Eichold, B. H. (2001). Body piercing and tattooing perspectives. *Clinical Nursing Research, 10*, 424-441. doi: 10.1177/10547730122159030

Niebauer, C. L., Aselage, J., & Schutte, C. (2002). Hemispheric interaction and consciousness: Degree of handedness predicts the intensity of a sensory illusion. *Laterality: Asymmetries of Body, Brain and Cognition, 7*(1), 85-96. doi: 10.1080/13576500143000159

Nisbett, R. E., & Wilson, T. D. (1977). Telling more than we can know: Verbal reports on mental processes. *Psychological Review, 84*, 231–259.

Oldfield, R. (1971). The assessment and analysis of handedness: The Edinburgh Inventory. *Neuropsychologia, 9*, 97-113. doi: 10.1016/0028-3932(71)90067-4

Paolacci, G., & Chandler, J. (2014). Inside the Turk: Understanding Mechanical Turk as a participant pool. *Current Directions in Psychological Science, 23*(3), 184-188. doi: 10.1177/0963721414531598

Prichard, E., Propper, R. E., & Christman, S. D. (2013). Degree of handedness, but not direction, is a systematic predictor of cognitive performance. *Frontiers in Psychology*, *4*(9), 1-6. doi: 10.3389/fpsyg.2013.00009

Propper, R. E., Pierce, J., Geisler, M. W., Christman, S. D., & Bellorado, N. (2012). Hemispheric asymmetry in frontal EEG: Inconsistent-right-handers are more right hemisphere active. *Open Journal of Medical Psychology, 1*, 86–90.

Read, J. N., & Bartowski, J. P. (2000). To veil or not to veil? A case study of identity negotiation among Muslim women in Austin, Texas. *Gender and Society*, *14*(3), 395-413. doi: 10.1177/089124300014003003

Roccas, S., & Brewer, M. B. (2002). Social identity complexity. *Personality and Social Psychology Review*, *6*(2), 88-106.

Rotter, J. B. (1966). Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs: General and Applied*, *80*(1), 1-28. doi: 10.1037/h0092976

Sandler, I. N., & Lakey, B. (1982). Locus of control as a stress moderator: The role of control perceptions and social support. *American Journal of Community Psychology*, *10*(1), 65-80. doi: 10.1007/BF00903305

Santos, C. E., & Updegraff, K. A. (2014). Feeling typical, looking typical: Physical appearance and ethnic identity among Mexican-origin youth. *Journal of Latina/o Psychology*, *2*(4), 187-199. doi: 10.1037/lat0000023

Smyth, J., Dillman, D., Christian, L., & Stern, M. (2006). Comparing check-all and forced-choice question formats in web surveys. *Public Opinion Quarterly, 70*(1), 66-77.

Stangor, C., & Crandall, C. S. (2000). Threat and the social construction of stigma. In T. F. Heatherton, R. E. Kleck, Michelle R. Hebl, & J. G. Hull (Eds) *The Social Psychology of Stigma* (pp. 62-87). New York, NY: Guilford Press.

Stirn, A., Hinz, A., & Brahler, E. (2006). Prevalence of tattooing and body piercing in Germany and perception of health, mental disorders, and sensation seeking in a college sample. *Journal of Psychosomatic Research, 60,* 531-534. doi: 10.1016/j.jpsychores.2005.09.002

Swami, V. (2011). Marked for life? A prospective study of tattoos on appearance anxiety and dissatisfaction, perceptions of uniqueness, and self-esteem. *Body Image, 8,* 237-244. doi: 10.1016/j.bodyim.2011.04.005

Swami, V. (2012). Personality differences between tattooed and non-tattooed individuals. *Psychological Reports: Mental and Physical Health, 111*(1), 97-106. doi: 10.2466/09.07.21.PR0.111.4.97-106

Swami, V., & Furnham, A. (2007). Unattractive, promiscuous and heavy drinkers: Perceptions of women with tattoos. *Body Image, 4,* 343-352. doi: 10.1016/j.bodyim.2007.06.005

Swami, V., Gaughan, H.,, Tran, U. S., Kuhlmann, T., Stieger, S., & Voracek, M. (2015). Are tattooed adults really more aggressive and rebellious than those without tattoos? *Body Image, 15*, 149-152. doi: 10.1016/j.bodyim.2015.09.001

Swami, V., Pietschnig, J., Bertl, B., Nader, I., W., Stieger, S., & Voracek, M. (2012). Personality differences between tattooed and non-tattooed individuals. *Psychological Reports, 111*, 97-106. doi: 10.2466/09.07.21.PRO.111.4.97-106

Swami, V., Tran, U. S., Kulhmann, T., Stieger, S., Gaughan, H., & Voracek, M. (2016). More similar than different: Tattooed adults are only slightly more impulsive and willing to take risks than non-tattooed adults. *Personality and Individual Differences, 88*, 40-44. doi: 10.1016.j.paid.2015.08.054

Tajfel, H., & Turner, J. (1979). An integrative theory of intergroup conflict. In W. G. Austin & S. Worchel (Eds.), *The social psychology of intergroup relations* (pp. 33-47). Monterey, CA: Brooks-Cole.

Tajfel, H., Billig, M. G., Bundy, R. P., & Flament, C. (1971). Social categorisation and intergroup behaviour. *European Journal of Social Psychology, 1*, 149-178.

Tate, J. C., & Shelton, B. L. (2008). Personality correlates of tattooing and body piercing in a college sample: The kids are alright. *Personality and Individual Differences, 45*, 281-285. doi: 10.1016/j.paid.2008.04.011

Tiggemann, M., & Golder, F. (2006). Tattooing: An expression of uniqueness in the appearance domain. *Body Image, 3*, 309-315. doi: 10.1016/j.bodyim.2006.09.002

Tiggemann, M. & Hopkins, L. A. (2011). Tattoos and piercings: Bodily expressions of uniqueness? *Body Image, 8*, 245-250. doi: 10.1016/j.bodyim.2011.03.007

Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. S. (1987). *Rediscovering the social group: A self-categorization theory*. Basil Blackwell.

Wohlrab, S., Stahl, J., & Kappeler, P.M. (2007). Modifying the body: Motivations for getting tattooed and pierced. *Body Image, 4*, 87-95. doi: 10.1016/j.bodyim.2006.12.001

Appendix A

Pilot Study Measures

Locus of Control

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers. Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

- a. Children get into trouble because their patents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.

- a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.

- a. One of the major reasons why we have wars is because people don't take enough interest in politics.
- b. There will always be wars, no matter how hard people try to prevent them.

- a. In the long run people get the respect they deserve in this world
- b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries
-
- a. The idea that teachers are unfair to students is nonsense.
- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

- a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.

- a. No matter how hard you try some people just don't like you.
- b. People who can't get others to like them don't understand how to get along with others.

- a. Heredity plays the major role in determining one's personality
- b. It is one's experiences in life which determine what they're like.

- a. I have often found that what is going to happen will happen.
- b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

- a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
- b. Many times exam questions tend to be so unrelated to course work that studying in really useless.

- a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
- b. Getting a good job depends mainly on being in the right place at the right time.

- a. The average citizen can have an influence in government decisions.
- b. This world is run by the few people in power, and there is not much the little guy can do about it.

- a. When I make plans, I am almost certain that I can make them work.
- b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

- a. There are certain people who are just no good.
- b. There is some good in everybody.

- a. In my case getting what I want has little or nothing to do with luck.
- b. Many times we might just as well decide what to do by flipping a coin.

- a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
- b. Getting people to do the right thing depends upon ability. Luck has little or nothing to do with it.

- a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
- b. By taking an active part in political and social affairs the people can control world events.

- a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
- b. There really is no such thing as "luck."

- a. One should always be willing to admit mistakes.
- b. It is usually best to cover up one's mistakes.

- a. It is hard to know whether or not a person really likes you.
- b. How many friends you have depends upon how nice a person you are.

- a. In the long run the bad things that happen to us are balanced by the good ones.
- b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

- a. With enough effort we can wipe out political corruption.
- b. It is difficult for people to have much control over the things politicians do in office.

- a. Sometimes I can't understand how teachers arrive at the grades they give.
- b. There is a direct connection between how hard I study and the grades I get.

- a. A good leader expects people to decide for themselves what they should do.
- b. A good leader makes it clear to everybody what their jobs are.

- a. Many times I feel that I have little influence over the things that happen to me.
- b. It is impossible for me to believe that chance or luck plays an important role in my life.

- a. People are lonely because they don't try to be friendly.
- b. There's not much use in trying too hard to please people, if they like you, they like you.

- a. There is too much emphasis on athletics in high school.
- b. Team sports are an excellent way to build character.

- a. What happens to me is my own doing.

- b. Sometimes I feel that I don't have enough control over the direction my life is taking.

- a. Most of the time I can't understand why politicians behave the way they do.
- b. In the long run the people are responsible for bad government on a national as well as on a local level.

Edinburgh Handedness Inventory

Please indicate your preference in the use of hands for each of the following activities or objects by placing a check in the appropriate column.

	Always Left	Usually Left	No Pref-erence	Usually Right	Always Right
Writing					
Drawing					
Spoon					
Open Jars					
Toothbrush					
Throwing					

Comb Hair					
Scissors					
Knife					
Striking a match					

Social Desirability

Directions: Read each item and decide whether it is true (T) or false (F) for you. Try to work rapidly and answer each question by clicking on the T or the F.

1. Before voting I thoroughly investigate the qualifications of all the candidates.
2. I never hesitate to go out of my way to help someone in trouble.
3. It is sometimes hard for me to go on with my work if I am not encouraged.
4. I have never intensely disliked anyone.
5. On occasions I have had doubts about my ability to succeed in life.
6. I sometimes feel resentful when I don't get my way.
7. I am always careful about my manner of dress.
8. My table manners at home are as good as when I eat out in a restaurant.
9. If I could get into a movie without paying and be sure I was not seen, I would probably do it.
10. On a few occasions, I have given up something because I thought too little of my ability.
11. I like to gossip at times.
12. There have been times when I felt like rebelling against people in authority even thought I knew they were right.
13. No matter who I'm talking to, I'm always a good listener.

14. I can remember “playing sick” to get out of something.
15. There have been occasions when I have taken advantage of someone.
16. I’m always willing to admit it when I make a mistake.
17. I always try to practice what I preach.
18. I don’t find it particularly difficult to get along with loudmouthed, obnoxious people.
19. I sometimes try to get even rather than forgive and forget.
20. When I don’t know something I don’t mind at all admitting it.
21. I am always courteous, even to people who are disagreeable.
22. At times I have really insisted on having things my own way.
23. There have been occasions when I felt like smashing things.
24. I would never think of letting someone else be punished for my wrong-doings.
25. I never resent being asked to return a favor.
26. I have never been irked when people expressed ideas very different from my own.
27. I never make a long trip without checking the safety of my car.
28. There have been times when I was quite jealous of the good fortune of others.
29. I have almost never felt the urge to tell someone off.
30. I am sometimes irritated by people who ask favors of me.
31. I have never felt that I was punished without cause.
32. I sometimes think when people have a misfortune they only got what they deserved.
33. I have never deliberately said something that hurt someone’s feelings.

Tattoo and Piercing Questions

Do you have any tattoos?

Yes No

If yes, how many? _____

Where?

Upper arm lower arm legs back face other_____

Do you have any piercings?

Yes No

If yes, how many? _____

Where?

Ear lobe Another part of the ear Nose Eyebrow

Navel Other_____

Demographic Questions

We would like to get a little more information about you. Please answer the questions below.

Gender: Male Female

Age (in years): _____

Ethnicity:

European American African American Arab American

Hispanic/Latino American Native American Other_____

Highest level of Education Completed

Below high school High School or Equivalent Some College

Associates Degree Bachelor's Degree Master's Degree

Doctoral Degree

What is your occupation? _____

What is your relationship status?

Single Dating Cohabitating Married Divorced

Widowed

What is your religious faith?

Catholic Protestant Muslim Jewish Buddhist Hindu

Agnostic Atheist Other (please specify) _____

How religious are you?

1 2 3 4 5 6 7

Not at all religious	Somewhat religious	Very religious

In general, how would you categorize yourself politically?

1	2	3	4	5	6	7
Extremely Liberal			Moderate			Extremely Conservative

Was there anything in today's study that you found confusing or did not understand? Please explain.

Appendix B

Primary Study Materials

Locus of Control

This is a questionnaire to find out the way in which certain important events in our society affect different people. Each item consists of a pair of alternatives lettered a or b. Please select the one statement of each pair (and only one) which you more strongly believe to be the case as far as you're concerned. Be sure to select the one you actually believe to be more true rather than the one you think you should choose or the one you would like to be true. This is a measure of personal belief: obviously there are no right or wrong answers. Please answer these items carefully but do not spend too much time on any one item. Be sure to find an answer for every choice. In some instances you may discover that you believe both statements or neither one. In such cases, be sure to select the one you more strongly believe to be the case as far as you're concerned. Also try to respond to each item independently when making your choice; do not be influenced by your previous choices.

- a. Children get into trouble because their patents punish them too much.
- b. The trouble with most children nowadays is that their parents are too easy with them.

- a. Many of the unhappy things in people's lives are partly due to bad luck.
- b. People's misfortunes result from the mistakes they make.

- a. One of the major reasons why we have wars is because people don't take enough interest in politics.
- b. There will always be wars, no matter how hard people try to prevent them.

- a. In the long run people get the respect they deserve in this world
- b. Unfortunately, an individual's worth often passes unrecognized no matter how hard he tries
-
- a. The idea that teachers are unfair to students is nonsense.
- b. Most students don't realize the extent to which their grades are influenced by accidental happenings.

- a. Without the right breaks one cannot be an effective leader.
- b. Capable people who fail to become leaders have not taken advantage of their opportunities.

- a. No matter how hard you try some people just don't like you.
- b. People who can't get others to like them don't understand how to get along with others.

- a. Heredity plays the major role in determining one's personality
- b. It is one's experiences in life which determine what they're like.

- a. I have often found that what is going to happen will happen.
- b. Trusting to fate has never turned out as well for me as making a decision to take a definite course of action.

- a. In the case of the well prepared student there is rarely if ever such a thing as an unfair test.
- b. Many times exam questions tend to be so unrelated to course work that studying in really useless.

- a. Becoming a success is a matter of hard work, luck has little or nothing to do with it.
- b. Getting a good job depends mainly on being in the right place at the right time.

- a. The average citizen can have an influence in government decisions.
- b. This world is run by the few people in power, and there is not much the little guy can do about it.

- a. When I make plans, I am almost certain that I can make them work.
- b. It is not always wise to plan too far ahead because many things turn out to be a matter of good or bad fortune anyhow.

- a. There are certain people who are just no good.
- b. There is some good in everybody.

- a. In my case getting what I want has little or nothing to do with luck.
- b. Many times we might just as well decide what to do by flipping a coin.

- a. Who gets to be the boss often depends on who was lucky enough to be in the right place first.
- b. Getting people to do the right thing depends upon ability. Luck has little or nothing to do with it.

- a. As far as world affairs are concerned, most of us are the victims of forces we can neither understand, nor control.
- b. By taking an active part in political and social affairs the people can control world events.

- a. Most people don't realize the extent to which their lives are controlled by accidental happenings.
- b. There really is no such thing as "luck."

- a. One should always be willing to admit mistakes.
- b. It is usually best to cover up one's mistakes.

- a. It is hard to know whether or not a person really likes you.
- b. How many friends you have depends upon how nice a person you are.

- a. In the long run the bad things that happen to us are balanced by the good ones.
- b. Most misfortunes are the result of lack of ability, ignorance, laziness, or all three.

- a. With enough effort we can wipe out political corruption.
- b. It is difficult for people to have much control over the things politicians do in office.

- a. Sometimes I can't understand how teachers arrive at the grades they give.
- b. There is a direct connection between how hard I study and the grades I get.

- a. A good leader expects people to decide for themselves what they should do.
- b. A good leader makes it clear to everybody what their jobs are.

- a. Many times I feel that I have little influence over the things that happen to me.
- b. It is impossible for me to believe that chance or luck plays an important role in my life.

- a. People are lonely because they don't try to be friendly.
- b. There's not much use in trying too hard to please people, if they like you, they like you.

- a. There is too much emphasis on athletics in high school.
- b. Team sports are an excellent way to build character.

- a. What happens to me is my own doing.

- b. Sometimes I feel that I don't have enough control over the direction my life is taking.

- a. Most of the time I can't understand why politicians behave the way they do.
- b. In the long run the people are responsible for bad government on a national as well as on a local level.

Edinburgh Handedness Inventory

Please indicate your preference in the use of hands for each of the following activities or objects by placing a check in the appropriate column.

	Always Left	Usually Left	No Pref-erence	Usually Right	Always Right
Writing					
Drawing					
Spoon					
Open Jars					
Toothbrush					
Throwing					

Comb Hair				
Scissors				
Knife				
Striking a match				

Need to Belong Scale

Instructions: For each of the statements below, indicate the degree to which you agree or disagree with the statement by writing a number in the space beside the question using the scale below:

1 = Strongly disagree
2 = Moderately disagree
3 = Neither agree nor disagree
4 = Moderately agree
5 = Strongly agree

_____ 1. If other people don't seem to accept me, I don't let it bother me.

_____ 2. I try hard not to do things that will make other people avoid or reject me.

_____ 3. I seldom worry about whether other people care about me.

_____ 4. I need to feel that there are people I can turn to in times of need.

_____ 5. I want other people to accept me.

_____ 6. I do not like being alone.

_____ 7. Being apart from my friends for long periods of time does not bother me.

_____ 8. I have a strong need to belong.

_____ 9. It bothers me a great deal when I am not included in other people's plans.

____ 10. My feelings are easily hurt when I feel that others do not accept me.

Right-Wing Authoritarianism Scale

This survey is part of an investigation of general public opinion concerning a variety of social issues. You will probably find that you agree with some of the statements, and disagree with others, to varying extents. Please indicate your reaction to each statement according to the following scale:

-4	=	You very strongly disagree with the statement.
-3	=	You strongly disagree with the statement.
-2	=	You moderately disagree with the statement.
-1	=	You slightly disagree with the statement.
0	=	You feel exactly and precisely neutral about the statement.
1	=	You slightly agree with the statement.
2	=	You moderately agree with the statement.
3	=	You strongly agree with the statement.
4	=	You very strongly agree with the statement.

Important: You may find that you sometimes have different reactions to different parts of a statement. For example, you might very strongly disagree ("-4") with one idea in a statement, but slightly agree ("+1") with another idea in the same item. When this happens, please combine your reactions, and [record] how you feel on balance (a "-3" in this case).

_____ 1. The established authorities generally turn out to be right about things, while the radicals and protestors are usually just "loud mouths" showing off their ignorance.

_____ 2. Women should have to promise to obey their husbands when they get married.

_____ 3. Our country desperately needs a mighty leader who will do what has to be done to destroy the radical new ways and sinfulness that are ruining us.

_____ 4. Gays and lesbians are just as healthy and moral as anybody else.

_____ 5. It is always better to trust the judgment of the proper authorities in government and religion than to listen to the noisy rabble-rousers in our society who are trying to create doubt in people's minds.

_____ 6. Atheists and others who have rebelled against the established religions are no doubt every bit as good and virtuous as those who attend church regularly.

_____ 7. The only way our country can get through the crisis ahead is to get back to our traditional values, put some tough leaders in power, and silence the troublemakers spreading bad ideas.

_____ 8. There is absolutely nothing wrong with nudist camps.

_____ 9. Our country *needs* free thinkers who have the courage to defy traditional ways, even if this upsets many people.

_____ 10. Our country will be destroyed someday if we do not smash the perversions eating away at our moral fiber and traditional beliefs.

_____ 11. Everyone should have their own lifestyle, religious beliefs, and sexual preferences, even if it makes them different from everyone else.

_____ 12. The "old-fashioned ways" and the "old-fashioned values" still show the best way to live.

_____ 13. You have to admire those who challenged the law and the majority's view by protesting for women's abortion rights, for animal rights, or to abolish school prayer.

_____ 14. What our country really needs is a strong, determined leader who will crush evil, and take us back to our true path.

_____ 15. Some of the best people in our country are those who are challenging our government, criticizing religion, and ignoring the "normal way things are supposed to be done."

_____ 16. God's laws about abortion, pornography and marriage must be strictly followed before it is too late, and those who break them must be strongly punished.

_____ 17. There are many radical, immoral people in our country today, who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.

_____ 18. A "woman's place" should be wherever she wants to be. The days when women are submissive to their husbands and social conventions belong strictly in the past.

_____ 19. Our country will be great if we honor the ways of our forefathers, do what the authorities tell us to do, and get rid of the "rotten apples" who are ruining everything.

_____ 20. There is no "*one* right way" to live life; everybody has to create their *own* way.

_____ 21. Homosexuals and feminists should be praised for being brave enough to defy "traditional family values."

_____ 22. This country would work a lot better if certain groups of troublemakers would just shut up and accept their group's traditional place in society.

_____ 23. There are many radical, immoral people in our country today, who are trying to ruin it for their own godless purposes, whom the authorities should put out of action.

_____ 24. People should pay less attention to the Bible and the other old forms of religious guidance, and instead develop their own personal standards of what is moral and immoral.

_____ 25. What our country needs *most* is discipline, with everyone following our leaders in unity.

_____ 26. It's better to have trashy magazines and radical pamphlets in our communities than to let the government have the power to censor them.

_____ 27. The facts on crime, sexual immorality, and the recent public disorders all show we have to crack down harder on deviant groups and troublemakers if we are going to save our moral standards and preserve law and order.

_____ 28. A lot of our rules regarding modesty and sexual behavior are just customs which are not necessarily any better or holier than those which other people follow.

_____ 29. The situation in our country is getting so serious, the strongest methods would be justified if they eliminated the troublemakers and got us back to our true path.

_____ 30. A "woman's place" should be wherever she wants to be. The days when women are submissive to their husbands and social conventions belong strictly to the past.

_____ 31. It is wonderful that young people today have greater freedom to protest against things they don't like and to make their own "rules" to govern their behavior.

_____ 32. Once our government leaders give us the "go ahead," it will be the duty of every patriotic citizen to help stomp out the rot that is poisoning our country from within.

Aspects of Identity Questionnaire*

*Items for superficial identity are shown in italics

INSTRUCTIONS: These items describe different aspects of identity. Please read each item carefully and consider how it applies to you. Fill in the blank next to each item by choosing a number from the scale below:
1 = Not important to my sense of who I am
2 = Slightly important to my sense of who I am
3 = Somewhat important to my sense of who I am
4 = Very important to my sense of who I am

5 = Extremely important to my sense of who I am

____ *1. The things I own, my possessions*

____ 2. My personal values and moral standards

____ 3. My popularity with other people

____ 4. Being a part of the many generations of my family

____ 5. My dreams and imagination

____ 6. The ways in which other people react to what I say and do

____ 7. My race or ethnic background

____ 8. My personal goals and hopes for the future

____ *9. My physical appearance: my height, my weight, and the shape of my body*

____ 10. My religion

____ 11. My emotions and feelings

____ 12. My reputation, what others think of me

____ 13. Places where I live or where I was raised

____ 14. My thoughts and ideas

____ *15. My attractiveness to other people*

____ *16. My age, belonging to my age group or being part of my generation*

____ 17. My gestures and mannerisms, the impression I make on others

____ *18. The ways I deal with my fears and anxieties*

____ 19. My sex, being a male or a female

____ 20. My social behavior, such as the way I act when meeting people

____ 21. My feeling of being a unique person, being distinct from others

____ 22. My relationships with the people I feel close to

____ 23. My social class, the economic group I belong to whether lower, middle, or upper class

____ 24. My feeling of belonging to my community

____ 25. Knowing that I continue to be essentially the same inside even though life involves many external changes

____ 26. Being a good friend to those I really care about

____ 27. My self-knowledge, my ideas about what kind of person I really am

____ 28. My commitment to being a concerned relationship partner

_____ 29. My feeling of pride in my country, being proud to be a citizen

_____ 30. My physical abilities, being coordinated and good at athletic activities

_____ 31. Sharing significant experiences with my close friends

_____ 32. My personal self-evaluation, the private opinion I have of myself

_____ 33. Being a sports fan, identifying with a sports team

_____ 34. Having mutually satisfying personal relationships

_____ 35. Connecting on an intimate level with another person

_____ 36. My occupational choice and career plans

_____ 37. Developing caring relationships with others

_____ 38. My commitments on political issues or my political activities

_____ 39. My desire to understand the true thoughts and feelings of my best friend or romantic partner

_____ 40. My academic ability and performance, such as the grades I earn and comments I get from teachers

_____ 41. Having close bonds with other people

_____ 42. My language, such as my regional accent or dialect or a second language that I know

_____ 43. My feeling of connectedness with those I am close to

_____ 44. My role of being a student in college

_____ 45. My sexual orientation, whether heterosexual, homosexual, or bisexual

Tattoo and Piercing Questions

Do you have any tattoos?

Yes No

If yes, how many? _____

Think about your first tattoo and please answer the following questions:

Where is it located?

Upper arm lower arm legs back face other_____

How old were you when you got it? _____

Why did you get it?

I liked how it looked
I got it to commemorate (remember or celebrate) an event or person
My friends pushed me into getting it
I got it to show that I'm a member of a certain group
I got it to show that I'm unique/different from everyone
Other_____

What was the reaction from your family at the time you got it?

Positive
Mixed (some had a positive reaction, others had a negative reaction)
Negative

What was the reaction from your friends at the time you got it?

Positive
Mixed (some had a positive reaction, others had a negative reaction)
Negative

What was the reaction from society at the time you got it?

Positive
Mixed (some had a positive reaction, others had a negative reaction)
Negative

Repeat above tattoo questions for tattoos 2-5 if applicable*

Do you have any piercings? Please be aware that if you are female we are asking about piercings that are not typical ear lobe piercings. If you are female and only have your ear lobes pierced, then please answer "no".

Yes No
If yes, how many? _____

Think about your first piercing and please answer the following questions:

Where is it located?
Ear lobe Another part of the ear Nose Eyebrow
Navel Other_____

How old were you when you got it? _____

Why did you get it?
I liked how it looked
I got it to commemorate (remember, honor, or celebrate) an event or person
My friends pushed me into getting it
I got it to show that I'm a member of a certain group
I got it to show that I'm unique/different from everyone
Other_____

What was the reaction from your family at the time you got it?
Positive
Mixed (some had a positive reaction, others had a negative reaction)
Negative

What was the reaction from your friends at the time you got it?
Positive
Mixed (some had a positive reaction, others had a negative reaction)
Negative

What was the reaction from society at the time you got it?
Positive
Mixed (some had a positive reaction, others had a negative reaction)
Negative

Do you still have this piercing?
Yes No

Repeat above tattoo questions for piercings 2-5 if applicable*

If you have tattoos and piercings, which one did you get first? Please be as specific as you can. _____

Approximately what percentage of your family have a tattoo? _____

Approximately what percentage of your friends have a tattoo? _____

Approximately what percentage of your family have a piercing (not counting females with their ear lobes pierced)? _____

Approximately what percentage of your friends have a piercing (not counting females with their ear lobes pierced)? _____

Demographic Questions

We would like to get a little more information about you. Please answer the questions below.

Gender: Male Female

Age (in years): _____

Ethnicity:

European American African American Arab American

Hispanic/Latino American Native American Other_____

Highest level of Education Completed

Below high school High School or Equivalent Some College

Associates Degree Bachelor's Degree Master's Degree

Doctoral Degree

What is your occupation? _____

What is your relationship status?

Single Dating Cohabitating Married Divorced

Widowed

What is your religious faith?

Catholic Protestant Muslim Jewish Buddhist Hindu

Agnostic Atheist Other (please specify) _____

How religious are you?

1	2	3	4	5	6	7
Not at all religious			Somewhat religious			Very religious

In general, how would you categorize yourself politically?

1	2	3	4	5	6	7
Extremely Liberal			Moderate			Extremely Conservative

Was there anything in today's study that you found confusing or did not understand? Please explain.