

EMPIRICALLY TESTING THE VERACITY OF OTAKU STEREOTYPES

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Abstract

In the present research we test the veracity of 36 stereotypes of otaku that have appeared in definitions and descriptions of otaku in various academic publications. We surveyed anime fans and examined differences between otaku and non-otaku fans, as well as gauge where fans fell on measures regarding each stereotype. Self-identified otaku tended to be young, male, single, and heterosexual. However, these were not necessarily distinguishing features of otaku. Otaku identified as nerds/geeks, spread information about their favorite anime by word-of-mouth, showed obsessive tendencies, rated high on immersion when consuming anime, and identified strongly with their favorite character. Contrary to the stereotypes, otaku had a comparable friendship network with non-otaku anime fans, perceived themselves as mature, and did not feel they were socially awkward around non-fans. Taken together, the result tended to paint a portrait of otaku as well-adjusted individuals who happen to have an intense interest in a particular fan object.

Keywords: Anime, Otaku, Stereotypes, Fanship, Fandom, Well-Being

Introduction

The International Anime Research Project is a team of social scientists who have conducted numerous studies over the past several years to answer various questions that scientists and anime fans alike have about anime fans and the anime fandom. The present paper represents the culmination of four years of this research (see Table 1) with an eye on otaku in samples of English-speaking, mainly Western anime fans. The source of sampling is important because there is often a distinction made between Japanese otaku and those in other countries (Reysen et al., 2021). We should also note that the stereotypes examined in the present paper come from definitions and descriptions of otaku in the academic literature (publications from various fields such as anthropology, media studies, and Japanese studies). The stereotypes may differ in non-academic discussions within and outside the fandom. Yet, we suspect that non-academic stereotypes of

otaku would eventually permeate and be included in academic publications about otaku. We included the stereotype in the present paper if it was noted as part of the definition or description of otaku (for a review of definitions and descriptions of otaku see Reysen et al., 2021).

Although the percentage of otaku differs from study to study, we typically find that about 30% of fans in our studies identify as otaku, something we allow them to determine for themselves, which is consistent with Kam's (2013) notion of otaku self-categorization. Thus, if anime fans call themselves otaku then they are. Specifically, this paper tests the veracity of 36 stereotypes about the ways in which otaku differ from those anime fans who do not identify as otaku (see Table 2). In other words, we examine if each stereotype sets otaku apart from non-otaku and take into account where otaku score on the measures to determine if a stereotype is supported or not. The paper begins with a brief description of stereotypes and why they matter. We then examine each otaku stereotype, and discuss what insights our research can provide about the veracity of the stereotype.

Stereotypes

Stereotypes are prototypical characteristics applied to groups and, by extension, to the members of those groups (Turner et al., 1987). Decades of research show that, far from being trivial, stereotypes significantly impact the way we perceive, remember, and

behave toward group members, regardless of their accuracy (Schneider, 2005). Nevertheless, laypersons and scholars alike often question whether stereotypes themselves contain a kernel of truth (Jussim et al., 1995). To this end, we combed the academic literature on otaku to extract stereotypes from the way they are defined and described by scholars. Most of these stereotypes are based on casual, non-scientific observations rather than empirical data, raising questions about their veracity. Moreover, some of these stereotypes may once have been true, but have changed over time and may no longer apply; this would be consistent with research showing that stereotypes are dynamic and can change with circumstances (Schneider, 2005). In the pages that follow, we quantitatively test the accuracy of 36 such stereotypes.

Demographic Stereotypes

“Otaku Are Young”

Stereotypes suggest that otaku are young (Lamarre, 2006). Due to ethical constraints, we are unable to sample fans younger than 18 years of age. However, we can compare adult otaku and non-otaku anime fans to see whether the two groups differ with respect to their mean age. In doing so, we find that otaku ($M = 23.38$, $SD = 6.58$) do not differ significantly from non-otaku ($M = 23.18$, $SD = 6.67$), although both otaku and non-otaku are relatively young, $t(3120) = -0.78$, $p = .437$, $d = -.03$. Thus, while

the stereotype of otaku being young is supported, their young age is not a distinguishing feature among anime fans in general.

“Otaku Are Male”

Numerous scholars characterize otaku as being predominantly male (Annett, 2014; Hinton, 2014; Kaichiro & Washburn, 2013; Kam, 2013; Lamarre, 2006; Odell & Le Blanc, 2013; Paré, 2004; Shen, 2007). Our data show no significant association between participant sex and self-categorization as otaku. In general, anime fans tend to be male (about 70%), with otaku, being non-significantly less likely to be male (67.7% male), $X^2(1, N = 3077) = 1.63, p = .201$, Cramer’s $V = .02$. So while there are more male than female otaku, this is a product of there being more male anime fans than female fans in general; being male is neither a necessary, sufficient, nor even distinguishing feature of being an otaku.

“Otaku Are Fat (or Thin)”

Otaku are suggested to be excessively overweight or excessively thin, depending on whose conceptualization you use (Kaichiro & Washburn, 2013; Lamarre, 2013; Paré, 2004). To test these assertions, we calculated anime fans’ body mass index based on their self-reported height and weight; for those interested, the average height of anime fans was 5 foot 6 inches, with an average weight of 181 pounds.

Otaku’s body mass index was calculated to be ($M = 28.18, SD = 7.76$), a number which did not significantly differ from that of non-otaku fans ($M = 27.59, SD = 7.72$), $t(849) = -1.07, p = .285, d = -.08$.

This does not necessarily mean the stereotypes about otaku being fat or thin are wrong, however. A mean can only tell us the central tendency of the data. It does not rule out the possibility that the data are distributed bimodally, with a large number of especially thin and especially fat otaku averaging out to a more moderate BMI. As shown in Figure 1, however, this is not the case. A good number of otaku fall within the “healthy” body mass index range of 18.5-24.9, with more extreme values trailing off from there. In short, there is no support for either stereotype about the body shape and size of otaku.

“Otaku Are Single / Not in a Relationship”

Scholars have described otaku as single, or not currently in a romantic relationship (Annett, 2014; Hinton, 2014; Josephy-Hernández, 2017; Kaichiro & Washburn, 2013; Lamarre, 2006; Odell & Le Blanc, 2013; Paré, 2004; Sullivan, 2005). We asked anime fans in our studies to indicate their current relationship status and found no association between otaku self-categorization and being single. Most participants—otaku (68.9%) or non-otaku (71.5%), $X^2(1, N = 3122) = 2.36, p = .164$, Cramer’s $V = .03$ —reported being single, meaning that while the

stereotype of otaku being single is technically supported, it is not distinct or unique compared to a typical anime fan.

“Otaku Are Straight/Heterosexual”

Scholars tend to characterize otaku as heterosexual (Annett, 2014). In our studies we asked anime fans to rate their sexual orientation on a Kinsey scale (from exclusively heterosexual to exclusively homosexual). In general, we find little difference between otaku and non-otaku, with about 62.9% of non-otaku and 60.5% of otaku indicating that they are exclusively heterosexual, $X^2(1, N = 3122) = 1.75, p = .186$, Cramer’s $V = .02$. As this number technically comprises a majority of otaku, we can say that these data technically support the stereotype but, again, this is not distinct for otaku relative to anime fans in general.

“Otaku Are Middle Class”

Those writing about the socioeconomic status of otaku have variously described them as relatively poor (e.g., only working to support one’s consumer habits) or middle class (Annett, 2014). Across our studies, we have asked about socioeconomic status in various ways. For example, we inquired about income (in U.S. dollars) before taxes and find no significant difference between otaku ($M = \$30,024, SD = \$60,056$) and non-otaku ($M = \$26,074, SD = \$30,579$), $t(848) = -1.24, p = .214, d = -.09$. However, this

measure tends to contain a large amount of “noise,” since many of our participants reside outside the U.S. Another way to assess socioeconomic status is to ask how many bathrooms were in one’s childhood home, based on the assumption that larger, more luxurious homes tend to feature more bathrooms. Similar to the first metric, otaku ($M = 2.13, SD = 0.91$) and non-otaku ($M = 2.18, SD = 0.95$) did not significantly differ, $t(1113) = 0.89, p = .376, d = .05$. Finally, we assessed fans’ subjective feeling of socioeconomic status, asking them to place themselves on a ladder rung (from 1 to 10) relative to other people in their country, with people at the top rung representing those with the most money, education, and the most respected jobs and people on the lowest rung representing the worst of these. Once again, otaku ($M = 5.27, SD = 1.68$) and non-otaku ($M = 5.28, SD = 1.77$) did not differ significantly, $t(1113) = 0.02, p = .981, d = .01$. Taken together, the results provide converging evidence that, while generally falling into the middle class, otaku, again, do not differ in this respect from non-otaku anime fans.

“Otaku Live with Their Parents”

The stereotype that otaku live with their parents stems from the unflattering characterization of otaku as recluses who watch anime to the exclusion of other activities (e.g., work, school; see next section), which forces them to reside in their parents’ basement (Eng, 2006). To

assess whether this was true, we asked anime fans to indicate their current living arrangement from a variety of choices, one of which was residing with their parents. The results revealed no difference between non-otaku (45.7%) and otaku (43.2%) with respect to their likelihood of living with their parents, $X^2(1, N = 851) = 0.47, p = .493$, Cramer's $V = .02$. In fact, given that the majority of anime fans reported still being in school, these findings seem fairly reasonable. If we focus our analysis on older anime fans (e.g., over the age of 25), this number goes down fairly equally for otaku and for non-otaku anime fans. All in all, these data find no support for the stereotype of otaku as living in their parents' basement beyond what one would typically expect to see in a sample that contains a sizable proportion of college students.

“Otaku Are NEETs”

In line with the previous stereotype, some characterize otaku as NEETs—not in education, employment, or training (Lamarre, 2013; Larson, 2018). We asked participants to indicate whether they were a student and, if not, what their current occupation was, categorized as computer related (e.g., IT), unskilled (e.g., janitor), skilled work (e.g., technician), office work (e.g., clerk), professional (e.g., lawyer), or not currently working. There is a minor difference between otaku and non-otaku anime fans, with otaku being slightly less likely to be students and slightly

more likely to be not working (see Figure 2), $X^2(6, N = 3077) = 30.67, p < .001$, Cramer's $V = .10$. However, this difference is fairly small, and most otaku are either in education (49.4%) or are working (42.1%). As such, this stereotype is not considered to be supported.

“Otaku Are Not Athletic”

Consistent with the stereotype that otaku spend a great deal of time staying at home and being reclusive, otaku are also commonly stereotyped as not being especially athletic (Kaichiro & Washburn, 2013). We asked participants about their involvement in sport in three different ways: (1) if they self-identify as a sport fan, (2) to list any sports they played (we did not include eSport in this count), and (3) to rate whether they liked sports (7-point scale). Non-otaku (19.7%) were significantly more likely than otaku (14.2%) to indicate being a sport fan, $X^2(1, N = 3122) = 14.01, p < .001$, Cramer's $V = .07$, played slightly more sports ($M = 1.44, SD = 1.43$) than otaku ($M = 1.28, SD = 1.38$), $t(2012) = 2.37, p = .018, d = .11$, and liked sport ($M = 3.85, SD = 1.98$) slightly more than otaku ($M = 3.49, SD = 2.00$), $t(3120) = 4.84, p < .001, d = .18$. While this does not rule out the possibility that fans may engage in physical activities outside of sport (e.g., running), the data do suggest that this stereotype may be valid, given that most otaku do not like sport, and they seem to dislike

sports to a greater extent than non-otaku anime fans.

Social Stereotypes

“Otaku Are Introverted”

To examine the stereotype that otaku are introverts (Davis, 2008; Dziesinski, 2014; Kaichiro & Washburn, 2013), we asked participants to complete a brief measure of the big five dimensions of personality (Gosling et al., 2003), which included the dimension of introversion-extraversion (7-point scale). Non-otaku ($M = 3.35$, $SD = 1.52$) and otaku ($M = 3.37$, $SD = 1.59$) did not differ significantly with respect to their introversion-extraversion scores, $t(3120) = -0.35$, $p = .726$, $d = -.01$, although both groups of fans did score below the midpoint of the scale, suggesting that they tended toward introversion. This is partial evidence for the stereotype of introverted otaku, with the caveat, once again, that it is not distinct from a general pattern of findings in anime fans more broadly.

“Otaku Are Socially Awkward Around Non-Fans”

Various theorists have characterized otaku as having difficulty conversing and generally interacting with others, especially around those who are not anime fans themselves (Agcaoili, 2011; Annett, 2014; Davis, 2008; Dziesinski, 2014; Eng, 2006; Gn, 2011; Kaichiro & Washburn, 2013; Kam, 2013; Larson,

2018; Wang, 2010). To test the veracity of this claim, we asked participants to rate their agreement with two items (“I act awkward around non-anime fans,” “I lack social skills when interacting with non-anime fans”) on a 7-point scale. Otaku ($M = 2.88$, $SD = 1.82$) scored significantly higher than non-otaku ($M = 2.17$, $SD = 1.50$) on this measure, $t(3120) = -11.69$, $p < .001$, $d = -.44$, although they scored well below the midpoint of the measure in general, indicating strong disagreement overall. As such, the stereotype that otaku are socially awkward around non-fans is not supported, at least as reported by otaku themselves.

“Otaku Do Not Have Friends”

Otaku are characterized as being asocial, reclusive, and lacking friends in general (Gn, 2011; Kaichiro & Washburn, 2013; Paré, 2004; Shen, 2007; Sullivan, 2005). We asked participants how many friends they had, narrowing the conceptualization of friends to those they see or speak with at least once a week. We also asked participants to indicate how many of those friends were anime fans. Both otaku ($M = 8.96$, $SD = 12.06$) and non-otaku ($M = 9.00$, $SD = 11.70$) indicated that they have a number of friends and do not significantly differ with respect to their number of friends, $t(3120) = 0.11$, $p = .913$, $d = .003$. However, for otaku ($M = 4.77$, $SD = 6.88$), significantly more of those friends are also anime fans as compared to non-otaku ($M = 3.75$, SD

= 6.07), $t(3120) = -4.25$, $p < .001$, $d = -.16$. In other words, the size of otakus' friendship networks are about the same as non-otaku anime fans, but otaku tend to have more anime fans in their network (on average, about one more anime fan). These results wholly refute the stereotype of otaku as friendless.

“Otaku Have Poor Hygiene”

A stereotype of otaku specifically (and fans of “nerdy” interests in general) is that they have poor hygiene (Davis, 2008). To test whether there is any truth to this stereotype, we asked anime fans to rate the extent that they have engaged in poor personal hygiene practices within the past two weeks (1 = *not at all*, 7 = *frequently*). Both non-otaku ($M = 2.45$, $SD = 1.62$) and otaku ($M = 2.56$, $SD = 1.60$) scored well below the midpoint of this scale, and they did not significantly differ from one another, $t(1113) = -1.11$, $p = .267$, $d = -.07$. While this cannot definitely refute the stereotype, the results at very least suggest that fans do not believe that they have poor hygiene, which is a strike against the stereotype.

“Otaku Are Immature”

Otaku are often stereotyped as being childish or immature (Hinton, 2014; Kinsella, 1998). To assess this, we administered a short, two-item measure of self-rated maturity (“I am a mature person,” “Other people would describe me as a mature person;” 7-point scale;

Reysen & Plante, 2017). Otaku ($M = 5.21$, $SD = 1.31$) and non-otaku ($M = 5.32$, $SD = 1.25$) did not differ significantly from one another and scored above the midpoint of the measure, $t(1113) = 1.37$, $p = .172$, $d = .09$. As such, it would seem that otaku do not consider themselves to be immature. While this does not completely discredit the stereotype, it at very least provides no empirical support for it.

Stereotypes about Obsession

“Otaku Are Nerds/Geeks”

A common stereotype of otaku—and of anime fans in general—is that they are nerds or geeks (Eng, 2006; Hinton, 2014; Kaichiro & Washburn, 2013; Kinsella, 1998; Lamarre, 2006; Odell & Le Blanc, 2013; Sullivan, 2005; Wang, 2010). A discussion about the theoretical distinctions between nerds and geeks is beyond the scope of this paper, so for now we will treat the two as analogous. We asked participants a variety of questions about being a nerd (e.g., valuing intellectual pursuits over sexual relations), but one question in particular seemed to be the best-suited to testing the stereotype: “I consider myself a nerd.” Otaku ($M = 5.59$, $SD = 1.57$) scored significantly higher than non-otaku ($M = 4.97$, $SD = 1.76$) on this 7-point scale, $t(3120) = -9.57$, $p < .001$, $d = -.36$, and both groups scored well above the scale's midpoint. Thus, otaku agree that they are nerds, and they do so

even more than the average anime fan, providing support for the stereotype.

“Otaku Are Gatekeepers of Fandom-Related Knowledge”

Otaku have been characterized by various scholars as either carriers of fandom knowledge or as gatekeepers that help speed up or slow down the propagation or awareness of a particular anime series within the fandom (Eng, 2006; Odell & Le Blanc, 2013; Paré, 2004; Shen, 2007). To quantify these concepts, we asked fans to rate their knowledge about anime in general (“I tend to know a lot of obscure facts about things that most people my age consider unimportant or uninteresting”) on a 7-point scale. Otaku ($M = 5.55$, $SD = 1.50$) rated their obscure knowledge significantly higher than non-otaku ($M = 5.21$, $SD = 1.61$), $t(3120) = -5.58$, $p < .001$, $d = -.22$, and above the midpoint of the scale. We also asked more specific questions about the anime industry (“I know a lot about the anime industry”), anime production (“I know a lot about how anime is made (e.g., funded, production process)”) and about Japanese culture (“I know a lot about Japanese culture”). Otaku ($M = 4.10$, $SD = 1.59$) rated knowledge of the industry higher than non-otaku ($M = 3.33$, $SD = 1.55$), $t(2850) = -11.87$, $p < .001$, $d = -.49$. Otaku ($M = 3.71$, $SD = 1.71$) felt they knew more about how anime is produced compared to non-otaku ($M = 3.11$, $SD = 1.66$), $t(2850) = -8.68$, $p < .001$, $d = -.36$. Lastly, otaku ($M = 4.50$,

$SD = 1.60$) felt significantly more knowledgeable about Japanese culture than non-otaku ($M = 3.71$, $SD = 1.62$), $t(2850) = -11.77$, $p < .001$, $d = -.49$. Taken together, these data provide converging evidence for the stereotype, although, we should note, this is a far cry from showing that otaku are the sole repository or gatekeepers of knowledge in the anime fandom.

“Otaku Proselytize about Anime through Word of Mouth”

As noted in the previous section, otaku are characterized as gatekeepers who can speed up or slow down distribution of anime through word-of-mouth (Lamarre, 2006). To assess the extent to which otaku engage in this behavior, participants rated four items (e.g., “I seldom miss an opportunity to tell others about anime;” 7-point scale). Otaku ($M = 4.09$, $SD = 1.50$) scored significantly higher than non-otaku ($M = 3.17$, $SD = 1.48$) in this regard, $t(2850) = -14.90$, $p < .001$, $d = -.62$, although their scores were only just above the midpoint of the measure on average. Thus, while otaku do engage in a fair amount of word-of-mouth transmission of their anime interest, it is likely not to the hyperbolic extent that the stereotype makes it out to be.

“Otaku Are Obsessed with Anime”

Among the most common stereotypes about otaku is their characterization as obsessed with anime

(Davis, 2008; Eng, 2006; Lamarre, 2006; Larson, 2018; Odell & Le Blanc, 2013; Paré, 2004; Shen, 2007; Sullivan, 2005). We assessed this fairly directly by asking participants to rate their degree of obsession on three items (e.g., “I can sometimes be obsessive about anime”). Otaku ($M = 4.87$, $SD = 1.34$) scored significantly higher than non-otaku ($M = 3.70$, $SD = 1.45$) on this averaged measure, $t(3120) = -21.79$, $p < .001$, $d = -.83$, and scored above the midpoint of the 7-point scale. This largely supports the stereotype and points to obsession as being a key feature of distinguishing an otaku from a typical anime fan.

“Otaku Develop Strong Connections with Favorite Characters”

While the notion of otaku as forming strong connections with their favorite fictional characters is not as popular a stereotype as the stereotype that otaku are obsessed with anime, it is a stereotype that follows intuitively from the stereotype of anime-obsessed otaku (Wang, 2010). Reysen et al. (2020) conducted a factor analysis on fans’ felt connection to their favorite anime character and found evidence for three factors: identification with the character, felt similarity to the character, and sexual attraction to the character. Most relevant is the identification dimension, on which otaku ($M = 4.64$, $SD = 1.17$) scored significantly higher and above the midpoint of the scale than non-otaku ($M = 4.18$, $SD = 1.26$), $t(1113) = -6.38$, $p < .001$, $d = -.38$. This suggests that otaku

do identify more strongly with—and thus feel a strong connection to—their favorite anime characters, consistent with the stereotype.

“Otaku Get Really Immersed in Anime”

Immersion is the experience of temporarily losing touch with reality and feeling like one is part of a fictional story or piece of media. This is generally experienced positively (as opposed to hallucinations, which tend to be maladaptive and beyond one’s control), and immersion may well be an important driver of fan interest. Researchers have described immersion in various way (e.g., cognitive, affective), but in general it is the experience of feeling part of the media (Reysen et al., 2019). Given that otaku are seen as extremely enthusiastic fans of an interest, it should follow that they become especially immersed in anime (Dziesinski, 2014). We thus gave anime fans a single-item measure of immersion into anime (“While watching anime I felt completely immersed;” Reysen et al., 2019). Otaku ($M = 5.55$, $SD = 1.26$) score significantly higher than non-otaku ($M = 5.17$, $SD = 1.36$), $t(2230) = -6.30$, $p < .001$, $d = -.29$, on this 7-point scale—well above the scale’s midpoint. As such, we can say that the stereotype of otaku as especially-immersed anime fans is supported by our data.

Stereotypes about Other Interests

“Otaku Are Science Fiction Fans”

While we often conceptualize otaku as being anime fans, others have stereotyped otaku as fans of science fiction more generally (Azuma, 2009; Kaichiro & Washburn, 2013; Kam, 2013). We asked anime fans whether they self-identified as Sci-Fi fans and found no association between being otaku and self-categorization as a Sci-Fi fan (45% of otaku vs. 43.1% of non-otaku), $X^2(1, N = 2852) = .83, p = .362$, Cramer's $V = .02$. While it is true that a sizable minority of otaku do consider themselves to be science fiction fans, this is not a majority, nor does it distinguish otaku from non-otaku anime fans, which ultimately undermines the stereotype's veracity.

“Otaku Are Gamers”

While anime fans, in general, tend to be gamers, stereotypes suggest an even stronger connection between gamer culture and anime fandom for otaku (Azuma, 2009; Kam, 2013). We asked fans whether they self-identified as casual gamers, console gamers, PC gamers, eSport gamers, and mobile games gamers to capture the various ways one could consider themselves to be a gamer. We found no evidence for a significant association between being a casual gamer and being otaku (otaku = 53.1%, non-otaku = 49.3%, $X^2(1, N = 2852) = 3.36, p = .067$, Cramer's $V =$

.03). However, otaku were significantly more likely than non-otaku to be console gamers (otaku = 50.9%, non-otaku = 41.1%, $X^2(1, N = 2852) = 22.77, p < .001$, Cramer's $V = .09$), PC gamers (otaku = 68%, non-otaku = 60.2%, $X^2(1, N = 2852) = 14.92, p < .001$, Cramer's $V = .07$), eSport gamers (otaku = 9.2%, non-otaku = 5.5%, $X^2(1, N = 2852) = 12.77, p < .001$, Cramer's $V = .07$), and mobile games gamers (otaku = 36.7%, non-otaku = 21.4%, $X^2(1, N = 2852) = 70.76, p < .001$, Cramer's $V = .16$). The evidence not only supports the stereotype that most otaku consider themselves to be gamers (especially PC gamers), but that they do so above and beyond what one would typically find among non-otaku anime fans.

“Most Otaku Cosplay”

Given the passion with which they pursue their interest in anime, otaku are often associated with behaviors that indicate considerable devotion to their interest, including cosplaying (Azuma, 2009; Kam, 2013; Shen, 2007; Wang, 2010). To assess whether this stereotype was grounded in reality, we asked fans to indicate whether they had ever cosplayed. Consistent with the stereotype, otaku (44.9%) were significantly more likely than non-otaku (29.1%) to cosplay, $X^2(1, N = 3122) = 76.80, p < .001$, Cramer's $V = .16$, although it should be noted that, despite this, less than half of otaku expressed their fandom through cosplay. As such,

this constitutes only partial support for the stereotype of otaku as cosplayers.

“Otaku Collect Anime Figurines”

Similar to the previous stereotype, otaku are frequently suggested to be overrepresented among anime figurine collectors (Azuma, 2009; Hinton, 2014; Kam, 2013; Lamarre, 2006). We asked fans whether they self-identified as figurine collectors. As with cosplayers, we found that otaku (29.5%) were significantly more likely than non-otaku (13.7%) to be figurine collectors, $X^2(1, N = 2034) = 97.76, p < .001$, Cramer's $V = .19$, although this represented only a minority of otaku. As such, this constitutes only partial support for the stereotype.

“Otaku Love Computers”

Otaku, perhaps through their association with nerd culture more broadly, are often characterized as being especially knowledgeable about computers (Azuma, 2009; Kaichiro & Washburn, 2013). Indeed, much of the history of otaku is tied to technology (e.g., VCR, video sharing), given that these technological advances have proven instrumental to the spread of anime. As such, we asked fans to complete ten items assessing their technology usage (e.g., social network usage, phone usage) on a 10-point scale (1 = *never* to 10 = *all the time*). Supporting the stereotype otaku ($M = 6.41, SD = 1.30$) used technology

significantly, although only slightly, more often than non-otaku ($M = 6.12, SD = 1.25$), $t(1113) = -3.71, p < .001, d = -.23$, scoring above the midpoint of the measure. The data thus support the stereotype.

“Otaku Engage in Piracy”

Otaku are often purported to obtain and spread anime through less-than-legal means, which may explain the origins of the stereotype that otaku are media pirates (Josephy-Hernández, 2017). To assess the truthfulness of this stereotype, we asked fans to rate where they obtain the anime that they consume on a 7-point scale (1 = *never watch*, 7 = *often watch*). As shown in Table 3, otaku scored significantly higher than non-otaku fans across all means of obtaining anime, reflecting their general tendency to consume more anime in general. More importantly, the two ways of consuming that scored above the midpoint were unofficial streaming and legal streaming. The results suggest that otaku do pay for streaming services, but they are also willing to stream without paying for shows, perhaps doing so for series that are unavailable on their preferred sites or which may be difficult to obtain legally. Regardless of their reason for doing so, the results do support the stereotype that otaku, to at least some degree, regularly do not pay for at least some of the anime content they consume.

Sexual Stereotypes

“Otaku Frequently Consume Anime-Themed Pornography”

Otaku are frequently stereotyped as sexual perverts who consume significant amounts of hentai (Agcaoili, 2011; Josephy-Hernández, 2017; Lamarre, 2006; Wang, 2010). In our surveys, we asked about porn consumption in a myriad of different ways. For simplicity’s sake, we will focus on three items specifically assessing porn as a gateway into the anime community (“Anime related pornography influenced me in becoming part of the anime community”), frequency of anime-themed pornography consumption (“I often view anime related pornographic material”), and the content of consumed pornography (“I view more anime pornographic material than non-anime pornographic material”). Participants completed the measures on a 7-point (1 = *strongly disagree*, 7 = *strongly agree*) scale.

We conducted a MANOVA to find a significant omnibus test, Wilks’ Lambda = .97, $F(3, 2228) = 19.82$, $p < .001$, $\eta_p^2 = .026$. Otaku ($M = 2.87$, $SD = 1.95$) were significantly more likely than non-otaku ($M = 2.38$, $SD = 1.75$) to join the fandom due to porn, $F(1, 2230) = 35.70$, $p < .001$, $\eta_p^2 = .016$. Otaku ($M = 4.58$, $SD = 2.19$) also rated their frequency of pornography consumption significantly higher than non-otaku ($M = 3.90$, $SD = 2.16$), $F(1, 2230) = 48.22$, $p < .001$, $\eta_p^2 = .021$. Lastly, otaku ($M = 3.85$, $SD =$

2.42) consumed a higher proportion of anime-themed pornography than non-otaku ($M = 3.18$, $SD = 2.24$), $F(1, 2230) = 41.78$, $p < .001$, $\eta_p^2 = .018$. In short, while otaku were not necessarily drawn into the anime fandom through porn consumption itself, they do consume more pornography—and more anime-themed pornography—than non-otaku do. Of course, otaku do not score extremely high on any of these measures, suggesting that otaku are not rabidly overconsuming porn or motivated to be anime fans by their interest in hentai. We suggest, based on these data, that the stereotype is only partially supported insofar as otaku simply consume more media than non-otaku, pornographic or otherwise (e.g., watch more anime, read more manga, visit and post more in online forums, etc.).

“Otaku Are Lolicons”

Diving into an especially taboo topic, otaku are frequently stereotyped as lolicons—attracted to prepubescent anime characters (Davis, 2008; Josephy-Hernández, 2017; Kaichiro & Washburn, 2013; Lamarre, 2013). Due to the sensitive nature of the topic, we did not ask about fans’ personal consumption or preferences. However, we did ask ten general attitudinal questions about the presence of lolis in the anime fandom. A factor analysis of the results found two dimensions which represented two distinct factors: the importance of loli characters (two items, e.g., “Loli

characters are an important part of anime/manga”) and the attitude that sexualized representations of lolis are not harmful or are not equivalent to child pornography (seven items, e.g., “Sexualized representations of loli characters are just drawings, NOT child pornography,” “Liking loli characters does NOT mean a person is sexually attracted to children”). A single item did not load on either factor (“Sexualized representations of loli characters makes the anime fandom look bad to non-fans”).

We conducted a MANOVA to find a significant omnibus test, Wilks’ Lambda = .95, $F(3, 2848) = 48.55$, $p < .001$, $\eta_p^2 = .049$. Otaku ($M = 4.15$, $SD = 1.87$) scored higher than non-otaku ($M = 3.29$, $SD = 1.78$) with respect to the importance of lolis, $F(1, 2850) = 132.43$, $p < .001$, $\eta_p^2 = .044$. Otaku ($M = 5.01$, $SD = 1.41$) compared to non-otaku ($M = 4.49$, $SD = 1.51$) scored higher with respect to the idea that lolis are non-harmful, $F(1, 2850) = 71.26$, $p < .001$, $\eta_p^2 = .024$. Otaku ($M = 5.78$, $SD = 1.52$) scored lower than non-otaku ($M = 6.09$, $SD = 1.31$) with respect to the idea that sexualized representations of loli characters harm the image of the anime community, $F(1, 2850) = 29.64$, $p < .001$, $\eta_p^2 = .010$. This data does not directly support or refute the stereotype (which is more about attraction). What it does provide is an assessment of general attitudes. Specifically, otaku endorse the belief that (1) loli characters are important for the fandom (although just above midpoint), (2) sexualized

representations are not harmful, and (3) sexualized representations make the fandom look bad. The data support the notion that otaku have a favorable opinion of loli characters and reject arguments used by others to restrict sexualized representations of loli characters.

Motivation Stereotypes

“Otaku Use Anime as Escapism”

Along the same lines as stereotypes of otaku as recluses and NEETs is the stereotype that otaku use anime as a means of escaping or distracting themselves from the hassles of everyday life (Kaichiro & Washburn, 2013; Kam, 2013). We asked fans to rate the extent to which their anime community participation was motivated for a variety of reasons, including escapism (see Reysen et al., 2021; 7-point scale). The results support the stereotype, as otaku ($M = 5.51$, $SD = 1.70$) rate their escape motivation significantly higher than non-otaku do ($M = 4.72$, $SD = 1.94$), $t(3120) = -11.10$, $p < .001$, $d = -.42$, and do so above the midpoint of the scale.

“Otaku Use the Anime Fandom as a Way to Belong to a Group”

Although not a common stereotype, at least one theorist has suggested that otaku engage in their activities to feel closer to others in the community—as a way to satisfy a need for belongingness (Wang, 2010). We asked fans to rate the

extent to which belongingness motivated their participation in the anime fandom. The results showed that otaku ($M = 4.30$, $SD = 1.99$) scored significantly higher than non-otaku ($M = 3.27$, $SD = 1.91$), $t(3120) = -14.02$, $p < .001$, $d = -.53$, and was above the midpoint of the measure. This does appear to provide support for the stereotype, though this should be considered alongside other findings (see Reysen et al., 2021), which suggest that otaku may be more motivated by entertainment and escapism.

Stereotypes about Beliefs and Values

“Otaku Cling to Traditional Gender Roles”

Otaku culture has been characterized as focused on traditional norms and values of masculinity (Kam, 2013; Lamarre, 2013). Although we have not assessed endorsement of masculinity directly in our studies, we have measured anime fans’ belief in traditional gender roles. We asked fans to rate 12 characteristics (e.g., gentle, sympathetic, dominant) with respect to whether they describe women or men on a 7-point scale. Otaku ($M = 4.37$, $SD = 0.70$) and non-otaku ($M = 4.39$, $SD = 0.70$) fans did not differ with respect to male gender roles, $t(1113) = 0.44$, $p = .661$, $d = .01$. Similarly, otaku ($M = 4.77$, $SD = 0.85$) and non-otaku ($M = 4.76$, $SD = 0.86$) did not differ with respect to female gender roles, $t(1113) = -0.21$, $p = .830$, $d = -.01$. However, both means were above the scale’s midpoint,

suggesting that anime fans in general tend to endorse traditional gender roles at least somewhat. Thus, we find at least partial support for the stereotype.

Another potentially relevant belief is authoritarianism, which may be connected to masculine ideology (e.g., Perez-Arche & Miller, 2021). We administered six items pertaining to authoritarianism (e.g., “It is important to follow traditions and habits”) and found no significant difference between otaku ($M = 5.10$, $SD = 0.96$) and non-otaku anime fans ($M = 5.00$, $SD = 0.90$), $t(1113) = -1.74$, $p = .082$, $d = -.11$. However, given that the means are above the midpoint of the scales, we again find at least some evidence supporting a pattern of masculine values among anime fans in general and, by extension, otaku.

“Otaku Are Elitists”

Given their intense passion for anime, some have suggested that otaku express elitist attitudes toward other fans (Davis, 2008; Eng, 2006; Kaichiro & Washburn, 2013). Plante et al. (2020) define elitism as a belief that one is superior to others and observed that elitism comprises two dimensions: other-derogation (putting others down) and self-inflation (elevating oneself above others). We administered this measure to anime fans (7-point scale) and found no significant difference between otaku ($M = 2.60$, $SD = 1.18$) and non-otaku ($M = 2.61$, $SD = 1.18$) fans with respect to other-derogation, $t(2230) = 0.31$, $p =$

.754, $d = .01$. However, otaku ($M = 3.75$, $SD = 1.31$) scored significantly higher on self-inflation than non-otaku ($M = 3.12$, $SD = 1.34$), $t(2230) = -10.40$, $p < .001$, $d = -.47$. However, all of the means were below the midpoint of the scale. Thus, we find partial support for the stereotype: Otaku do self-inflate more than non-otaku and see themselves—at least somewhat—as being particularly good anime fans, but they are not especially likely to denigrate other fans in the process.

Stereotypes about Stigma

“Otaku Expect Others to Think Poorly of Them”

At least one theorist has suggested that otaku are well aware that their interest in anime/manga is stigmatized (Wang, 2010). Given that prior research suggests that the anime fandom is stigmatized (see Reysen et al., 2021), this would seem to suggest that otaku are at least somewhat accurate in their perception. To assess the extent to which otaku actually perceive stigma, we asked anime fans to rate the extent to which they perceive group discrimination (“Anime fans are discriminated against”) and personal discrimination (“I have felt discriminated against because I am an anime fan”). Otaku ($M = 3.96$, $SD = 1.67$) rated group discrimination significantly higher than non-otaku ($M = 3.62$, $SD = 1.75$), $t(1113) = -3.33$, $p = .001$, $d = -.20$, and otaku ($M = 3.25$, $SD = 1.91$) rated personal discrimination

significantly higher than non-otaku ($M = 2.64$, $SD = 1.82$), $t(1113) = -5.50$, $p < .001$, $d = -.33$. These are either at or below the midpoint of the scale, suggesting that otaku are only somewhat aware of the stigma they face, or perceive it as being not especially bad. One possibility is that the sort of stigma directed toward anime fans is to simply avoid them (see Reysen et al., 2021), which might mean that anime fans do not notice the absence of people interacting with them. Regardless of the reason for it, the data do suggest that, among fans, otaku are more aware of this stigma, though this is only partial support for the stereotype, as most otaku nevertheless see this stigma as being fairly minor, or do not perceive it at all.

“Otaku Hide their ‘Power Level’ (Fan Identity) from Others”

Because of the stigma anime fans experience, there exists a stereotype that otaku are aware of their need to hide their fan identity (Davis, 2008; Lamarre, 2013; Wang, 2010). Speaking to this idea, we asked fans to rate the extent that they revealed their anime fan identity to non-fans, including their family, friends, peers, supervisor(s), and new acquaintances (7-point scale). As shown in Table 4, otaku were significantly more open about their fan identity than non-otaku, though this fan identity disclosure was only above the midpoint for family and friends. Fans in general did not disclose their identity to those outside close others. This is support for

the stereotype that otaku, like anime fans in general, hide their fan identity, though it is only partial support, as otaku may be less willing (or able) to hide their fan identity than other anime fans.

Stereotypes about Well-Being

“Otaku are Dysfunctional and Experience Poor Well-Being”

Given that we have seen how stereotypes of otaku portray them as friendless recluses, it makes sense that they are also stereotyped as experiencing worse well-being overall (Josephy-Hernández, 2017; Shen, 2007). We asked anime fans about their well-being in a variety of ways over the years. As shown in Table 5, we have found no evidence of a meaningful difference between otaku and non-otaku anime fans on measures of anxiety, depression, satisfaction with life, self-esteem, and psychological well-being (self-acceptance, purpose in life, positive relations with others, personal growth, environmental mastery, and autonomy). Put simply, the results overwhelmingly show that otaku are psychologically healthy, refuting the stereotype.

“Otaku Over-Consume Anime and Lack Balance or Control”

Related to the question of well-being is the concern that otaku’s passionate interest in anime may lead to overconsumption and a lack of balance in their life (Eng, 2006; Larson, 2018;

Paré, 2004; Zielinski, 2014). Speaking to this idea, Reysen et al. (2021) found that otaku did tend to consume—in a problematic manner—more than non-otaku. For example, otaku scored higher than non-otaku on questions about spending more money than one had budgeted and being unable to pay for commissioned work (e.g., art). However, it is worth noting that these scores were below the midpoint of the measure, suggesting that, while they were more common among otaku, they were not especially common.

We’ve also asked fans to rate whether they have had particular difficulties in the past two weeks (e.g., “I have had difficulties paying some of my bills,” “My room or living space has gotten messier than usual;” from 1 = *not at all* to 7 = *frequently*). Otaku ($M = 3.09$, $SD = 1.30$) scored slightly, but significantly, higher than non-otaku ($M = 2.89$, $SD = 1.27$), $t(1113) = -2.58$, $p = .010$, $d = -.16$. However, again, the means are well below the midpoint. As such, we find only partial support at best for this stereotype, as otaku may be experiencing overconsumption and lack of balance more than typical anime fans, but this still tends to be a rarity rather than the norm for otaku.

Conclusion

We examined 36 stereotypes regarding otaku. We found support for 11 of the 36 stereotypes, as well as partial or qualified support for another 14 of the stereotypes. We can generally

characterize otaku as young, single, heterosexual, males from middle-class families. Otaku tend to be introverted, unathletic nerds with a wide array of obscure knowledge and a bit of an obsession with their interest in anime/manga. However, as suggested by Eng (2006), otaku seem, by most accounts, to be psychologically healthy individuals. Such findings may aid in dispelling myths regarding otaku. Further, the partially supported stereotypes show that otaku are not very different from non-otaku anime fans. Rather, they appear to be higher on the continuum of identification with their interest. Future research may explore how anime fans distinguish otaku from non-otaku and what stereotypes/characteristics are used for that distinction. While extreme cases may drive misconceptions and stereotypes about otaku, as is the case with any group, the data, on the whole, suggest that otaku are little more than highly identified, especially ardent fans, remarkable, if for nothing else, in how unexpectedly unremarkably they are.

References

- Agcaoili, M. D. (2011). Hybrid identities: Filipino fansubbers of Japanese media and self-construction. *Asian Studies*, 47, 1-28.
- Annett, S. (2014). *Anime fan communities: Transcultural flows and fictions*. Palgrave Macmillian.
- Azuma, H. (2009). *Otaku: Japan's database animals*. University of Minnesota Press.
- Davis, J. C. (2008). *Japanese animation in America and its fans* [Master's thesis, Oregon State University]. Oregon State University. https://ir.library.oregonstate.edu/concern/graduate_thesis_or_dissertations/4t64gr636
- Dziesinski, M. J., II (2014). *Cool vocations in Japan's global pop culture industries: From young fans to skilled animators and manga artists* (Publication No. 3648529) [Doctoral dissertation, University of Hawaii at Manoa]. ProQuest Dissertations and Theses Global.
- Eng, L. (2006). *Otaku engagements: Subcultural appropriation of science and technology* (Publication No. 3232607) [Doctoral dissertation, Rensselaer Polytechnic Institute]. ProQuest Dissertations and Theses Global.
- Gn, J. (2011). Queer simulation: The practice, performance and pleasure of cosplay. *Continuum: Journal of Media and Cultural Studies*, 25(4), 583-593. <https://doi.org/10.1080/10304312.2011.582937>
- Gosling, S. D., Rentfrow, P. J., & Swann, W. B., Jr. (2003). A very brief measure of the big-five personality domains. *Journal of Research in Personality*, 37(6), 504-528. [https://doi.org/10.1016/S0092-6566\(03\)00046-1](https://doi.org/10.1016/S0092-6566(03)00046-1)

- Hinton, P. R. (2014). The cultural context and the interpretation of Japanese 'lolita complex' style anime. *Intercultural Communication Studies*, 23(2), 54-68.
- Joseph-Hernández, D. E. (2017). Fansubbing hentai anime: Users, distribution, censorship and ethics. In D. Orrego-Carmona & Y. Lee (Eds.), *Non-professional subtitling* (pp. 171-197). Cambridge Scholars Publishing.
- Jussim, L. J., McCauley, C. R., & Lee, Y.-T. (1995). Why study stereotype accuracy and inaccuracy? In Y.-T. Lee, L. J. Jussim, & C. R. McCauley (Eds.), *Stereotype accuracy: Toward appreciating group differences* (p. 3-27). American Psychological Association.
<https://doi.org/10.1037/10495-001>
- Kaichiro, M., & Washburn, D. (2013). おたく Otaku/Geek. *Review of Japanese Culture and Society* 25, 56-66.
<https://doi.org/10.1353/roj.2013.0002>
- Kam, T. H. (2013). The common sense that makes the 'otaku': rules for consuming popular culture in contemporary Japan, *Japan Forum*, 25(2), 151-173.
<https://doi.org/10.1080/09555803.2012.743481>
- Kinsella, S. (1998). Japanese subculture in the 1990s: Otaku and the amateur manga movement. *Journal of Japanese Studies*, 24(2), 289-316.
<http://www.jstor.org/stable/133236>
- Lamarre, T. (2006). Otaku movement. In T. Yoda & H. Harootunian (Eds.), *Japan after Japan: Social and cultural life from the recessionary 1990s to the present* (pp. 358-394). Duke University Press.
- Lamarre, T. (2013). Cool, creepy, moé: Otaku fictions, discourses, and policies. *Diversité Urbaine*, 13(1), 131-152.
<https://doi.org/10.7202/1024714ar>
- Larsen, M. R. (2018). Fandom and otaku. In P. Booth (Ed.), *A companion to media fandom and fan studies* (pp. 277-288). Wiley Blackwell.
- Odell, C., & Le Blanc, M. (2013). *Anime*. Kamera Books.
- Paré, J. (2004). *Beyond boredom: The importance of the dull in information overload* (Publication No. MQ94617) [Master's thesis, Concordia University]. ProQuest Dissertations and Theses Global.
- Perez-Arche, H., & Miller, D. J. (2021). What predicts attitudes toward transgender and nonbinary people? An exploration of gender, authoritarianism, social dominance, and gender ideology. *Sex Roles*. Advance online publication.
<https://doi.org/10.1007/s11199-020-01212-3>
- Plante, C. N., Reysen, S., Chadborn, D., Roberts, S. E., & Gerbasi, K. C. (2020). 'Get out of my fandom newbie': A cross-fandom study of elitism and gatekeeping in fans. *Journal of Fandom Studies*, 8(2), 123-146.

- https://doi.org/10.1386/jfs_00013_1
- Reysen, S., & Plante, C. N. (2017). Fans, perceived maturity, and willingness to form a romantic relationship: Application of a short maturity measure. *Communication and Culture Online*, 8(1), 154-173. <https://doi.org/10.18485/kkonline.2017.8.8.8>
- Reysen, S., Plante, C. N., Chadborn, D., Roberts, S. E., & Gerbasi, K. (2021). *Transported to another world: The psychology of anime fans*. International Anime Research Project.
- Reysen, S., Plante, C. N., Roberts, S. E., & Gerbasi, K. C. (2019). Initial validation and reliability of the single-item measure of immersion. *Creative Industries Journal*, 12(3), 272-283. <https://doi.org/10.1080/17510694.2019.1621586>
- Reysen, S., Plante, C. N., Roberts, S. E., & Gerbasi, K. C. (2020). Sex differences in parasocial connection to favorite anime characters: A multifactor approach. *The Phoenix Papers*, 4(2), 72-92. <https://doi.org/10.17605/OSF.IO/E4C5P>
- Schneider, D. J. (2005). *The psychology of stereotyping*. Guilford Press.
- Shen, L. F. (2007). *The pleasure and politics of viewing Japanese anime* (Publication No. 3286809) [Doctoral dissertation, Ohio State University]. ProQuest Dissertations and Theses Global.
- Sullivan, J. (2005). *Anime: The cultural signification of the otaku* [Master's thesis, McMaster University]. McMaster University. <http://hdl.handle.net/11375/8450>
- Turner, J. C., Hogg, M. A., Oakes, P. J., Reicher, S. D., & Wetherell, M. (1987). *Rediscovering the social group: A self-categorization theory*. Blackwell.
- Wang, P.-T. (2010). *Affective otaku labor: The circulation and modulation of affect in the anime industry* (Publication No. 3426892) [Doctoral dissertation, City University of New York]. ProQuest Dissertations and Theses Global.
- Zielinski, T. M.-M. (2014). *Of broken wings and otaku empathy: repairing fractured relationships using anime to reconnect disenfranchised youth with the gospel* (Publication No. 3664420) [Doctoral dissertation, United Theological Seminary]. ProQuest Dissertations and Theses Global.

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Table 1
Demographics

Year	<i>N</i>	%Online	%USA	M_{age}	SD_{age}	%Male	%White	%Otaku
2014	3122	72.7%	67.4%	23.25	6.64	68.2%	71.6%	33.5%
2017	1115	64.8%	76.3%	25.02	7.15	53.9%	60.9%	44.8%
2018	2232	83.5%	60.8%	24.44	6.23	72.0%	68.8%	18.2%
2020	2852	100%	54.9%	23.64	6.04	72.2%	67.3%	28.7%

Table 2
Otaku Stereotypes and Results

Stereotype	Outcome
Young	Partially Supported
Male	Partially Supported
Fat or Thin	Not Supported
Single	Partially Supported
Straight/Heterosexual	Partially Supported
Middle Class	Partially Supported
Live with Parents	Not Supported
NEET	Not Supported
Not Athletic	Supported
Introverted	Partially Supported
Socially Awkward around Non-Fans	Not Supported
No Friends	Not Supported
Poor Hygiene	Not Supported
Immature	Not Supported
Nerd/Geek	Supported
Knowledge	Supported
Word of Mouth	Supported
Obsessive	Supported
Strong Connection with Favorite Character	Supported
Immersion	Supported
Science Fiction Fans	Not Supported
Gamers	Supported
Cosplay	Partially Supported
Figurine Collector	Partially Supported
Computers	Supported
Piracy	Supported
Porn/Perverts	Partially Supported
Loli	Partially Supported
Escape Motive	Supported
Belong Motive	Supported
Gender Roles	Partially Supported
Elitism	Partially Supported
Aware of Stigma	Partially Supported
Hide Identity	Partially Supported
Poor Well-Being	Not Supported
Over-Consume/Lack Balance	Not Supported

Table 3

Mean (Standard Deviation) Comparison between Otaku and Non-Otaku Sources of Anime

Variable	Non-Otaku	Otaku	<i>F</i>	<i>p</i>	η_p^2
TV	1.96 (1.57)	2.27 (1.81)	20.54	< .001	.007
DVD/Blue-Ray	2.18 (1.60)	2.65 (1.77)	46.25	< .001	.016
Legal Stream (paid)	3.96 (2.41)	4.28 (2.42)	9.90	.002	.003
Legal Stream (unpaid)	3.30 (2.17)	3.51 (2.27)	5.26	.022	.002
Friend/Family Account	2.62 (2.05)	2.83 (2.22)	6.24	.013	.002
Unofficial Stream	4.36 (2.28)	4.62 (2.31)	7.26	.007	.003
Unofficial Download	3.09 (2.40)	3.65 (2.53)	30.51	< .001	.011

Note. 7-point scale. Omnibus test was significant, Wilks' Lambda = .97, $F(7, 2844) = 14.10$, $p < .001$, $\eta_p^2 = .03$ (*df* for between-subjects = 1, 2850).

Table 4

Mean (Standard Deviation) Comparison for Otaku and Non-Otaku Identity Disclosure

Variable	Non-Otaku	Otaku	<i>F</i>	<i>p</i>	η_p^2
Family	4.65 (2.04)	5.00 (2.04)	19.48	< .001	.006
Friends	5.24 (1.77)	5.60 (1.74)	28.93	< .001	.009
Peers	3.31 (1.91)	3.74 (2.04)	33.39	< .001	.011
Supervisors	2.70 (1.87)	3.12 (2.11)	31.46	< .001	.010
Strangers	2.87 (1.79)	3.42 (1.94)	60.36	< .001	.019

Note. 7-point scale. Omnibus test was significant, Wilks' Lambda = .98, $F(5, 3116) = 14.24$, $p < .001$, $\eta_p^2 = .02$ (*df* for between-subjects = 1, 3120).

Table 5
Mean (Standard Deviation) Comparison of Non-Otaku and Otaku for Well-Being Indicators

Variable	Non-Otaku	Otaku	<i>F</i>	<i>p</i>	η_p^2
Anxious	3.78 (1.75)	3.79 (1.79)	0.02	.885	< .001
Depressed	3.17 (1.66)	3.30 (1.75)	4.05	.044	.001
Sat. w. Life	4.68 (1.66)	4.67 (1.71)	0.01	.905	< .001
Self-Esteem	4.27 (1.74)	4.12 (1.80)	5.40	.020	.002
Autonomy	5.30 (1.36)	5.33 (1.48)	0.28	.596	< .001
Mastery	4.96 (1.58)	5.06 (1.63)	2.60	.107	.001
Growth	5.05 (1.52)	5.13 (1.59)	1.43	.231	.001
Relations	4.83 (1.68)	4.86 (1.66)	0.16	.690	< .001
Purpose in Life	4.15 (1.99)	4.14 (2.03)	0.03	.873	< .001
Self-Acceptance	4.31 (1.85)	4.20 (1.87)	2.26	.133	.001

Note. 7-point scale. The omnibus test for the first four variables was significant: Wilks' Lambda = .996, $F(4, 3117) = 3.25$, $p = .011$, $\eta_p^2 = .004$ (between-subjects $df = 1, 3120$). The omnibus test for the latter six variables was significant: Wilks' Lambda = .995, $F(6, 2845) = 2.19$, $p = .041$, $\eta_p^2 = .005$ (between-subjects $df = 1, 2850$).

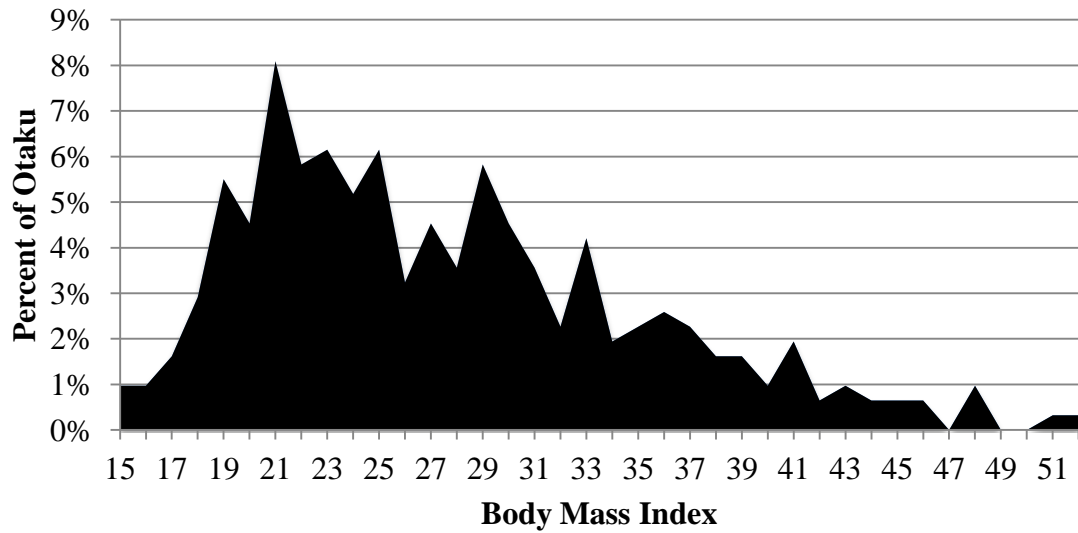


Figure 1. Percentage of otaku's body mass index distribution.

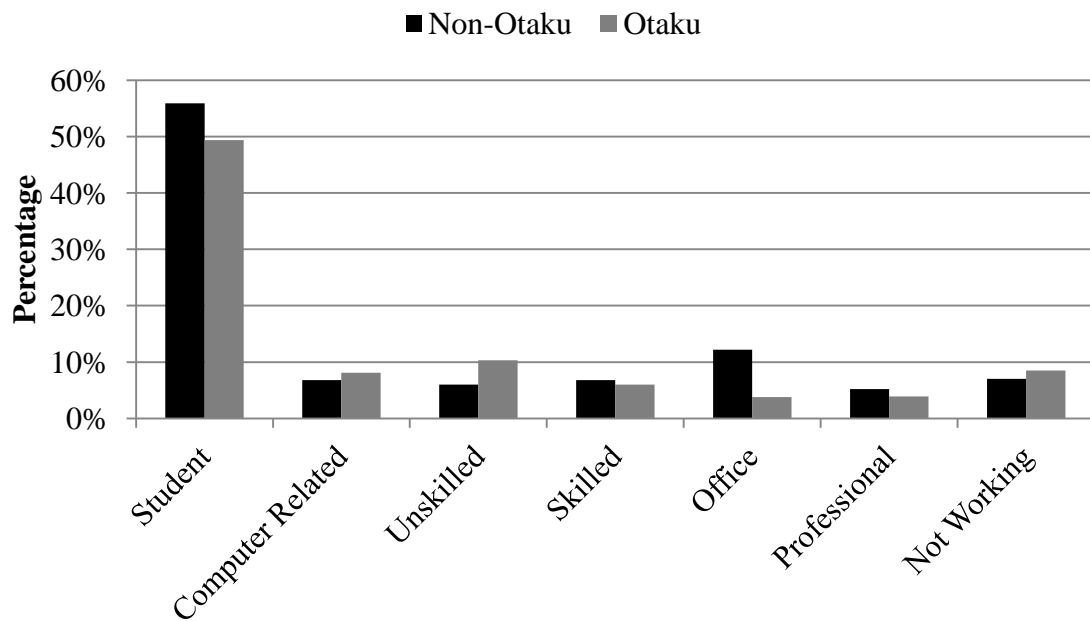


Figure 2. Percentage of occupation of otaku and non-otaku.