

Worlds Apart?
Atheist, Agnostic, and Humanist Worldviews in Three European Countries

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Secular worldviews are widespread and growing. What are the differences between secular self-identifications? This study examined if self-identified atheists, agnostics, and humanists differed systematically with regard to worldview dimensions. Cultural and gender effects were examined as secondary study objectives. A total of 1,814 nonreligious individuals from Germany, Austria, and the Netherlands completed questionnaires measuring degrees of atheism, agnosticism, humanism, personal responsibility, scientism, economic materialism, skepticism, dogmatism, existential search, and concealment and disclosure of convictions. As expected, self-identified atheists, agnostics, and humanists differed substantially in their worldview positions and communication. Across all three countries, atheists endorsed atheism to a very high degree. Compared to agnostics and humanists, they were more convinced of scientism and less of skepticism. Agnostics scored highest in agnosticism and skepticism and lowest in dogmatism. Humanists mostly held distinguishable middle positions between atheists and agnostics. Analyses of cultural differences supported the hypothesis that more religious contexts give rise to secular countermovements: In (more religious/less secular) Austria and Germany, atheism, scientism, personal responsibility, and disclosure were more pronounced than in the (secular) Netherlands, where agnosticism and skepticism were more prevalent. Regarding gender, men scored higher on atheism and scientism, and women on skepticism. The findings suggest a continuum from decided to open secularity, two clearly distinct positions. Decided (atheist, scientist, disclosing) secularity was more common among self-identified atheists, men, and in more religious contexts. Open (agnostic, skeptic) secularity was more prominent among self-identified agnostics, women, and in the more secular culture. Self-identified humanists occupied a middle position.

Keywords: Atheism, agnosticism, humanism, secularity, worldview

All worldviews follow a similar structure, as Wilhelm Dilthey contended in his “science of worldviews” (1911). They serve as frameworks to meaningfully perceive and interpret a reality that would otherwise be experienced as highly ambiguous, arbitrary, contradictory, or meaningless. Worldviews are not explicitly chosen; they evolve from the way we experience, deal with, reflect upon the setting we are “thrown into” (Heidegger), i.e. time and place, culture and social embedding (Dilthey, 1911). As a result, worldviews contain individual as well as shared notions (Johnson, Hill, & Cohen, 2011). The present study examined eleven dimensions of a worldview reported by 1,814 self-identified atheists, agnostics, and humanists in Germany, Austria, and the Netherlands. Shared notions as well as systematic differences between them were investigated in relation to self-identification, culture, and gender.

The study of secular worldviews is a relatively new field of research. When sociologists started exploring profiles of religious ‘nones’ (Vernon, 1968), this was an important first step. However, it also suggested that there were ‘religious worldviews’ and ‘nonreligious worldviews’. Today it is widely recognized that there is worldview heterogeneity both among religious and secular people (Lim et al., 2010; Schnell, 2015; Shook, 2017). An increasing number of studies is concerned with differentiating secular positions and identifying related characteristics (e.g., Baker, Stroope, & Walker, 2018; Coleman, Hood, & Streib, 2018; Lee, 2014; Schnell, 2009, 2015; Schnell & Keenan, 2011, 2013; Silver et al., 2014; Speed, Coleman, & Langston, 2018).

Before extensively investigating correlates, however, it will be useful to take a closer look at the substance of secular positions in question. While religious people can be assumed to hold certain attitudes and beliefs because of their affiliation to a specific religion, this is not the case for secular self-identifications such as atheist, agnostic, or humanist. Both atheism and agnosticism are defined in exclusively negative terms, whereas humanism explicitly commits to a humanistic stance. Beyond

this, little is known about the worldviews associated with these secular self-identifications. This may also be related to the fact that secular institutions are not yet widespread and thus there is no widespread "canonization" of secular positions.

The present study's primary objective was to examine if three common secular self-identifications as atheist, agnostic, and humanist represent distinguishable worldviews. We provide statistical analyses and rich descriptive quantitative data on eleven dimensions that have been discussed as relevant in secular life worlds. These involve degrees of *atheism* and *agnosticism* (Schnell, 2015); *humanism*, *personal responsibility*, *scientism*, and *economic materialism* as normatively based stances – i.e. related to good, desirable, or permissible action (cf. Aronson, 2009; Gray, 2018; Pigliucci, 2013; Schnell, 2015); *skepticism*, *dogmatism*, and *existential search* as epistemic positions, and two forms of communication of these convictions, *concealment* and *disclosure*. As a secondary objective, we contextualized these findings by investigating cultural and gender effects on the worldview dimensions. The study was based on the assumption that people are nonreligious in different ways even within the narrow framework of Western industrialized countries, and that these ways may primarily be traced back to a self-identification as atheist, agnostic or humanist, but also to cultural context and gender. Variety in cultural context was introduced by conducting the study in three countries with different degrees of secularization, Germany, Austria, and the Netherlands.

Self-Identification as Atheist, Agnostic, or Humanist

More than fifty years after the recognition of secularity as a worthy subject of research, a large number of studies still either refer to "the nonreligious" or atheists, while agnostics and humanists are studied much less frequently (Cragun, 2016). Both atheism and agnosticism are negatively defined. Atheism is 'either the lack of belief that there exists a god, or the belief that there exists none' (Blackburn, 2008, p. 27). Agnosticism – derived from the Greek *agnosia*, lack of knowledge – refers to the view that the metaphysical question of god is unanswerable (Blackburn, 2008). Secular humanism, in contrast, does not only reject belief in supernatural forces, but also affirms the ability and responsibility of humanity to live ethically and meaningfully out of its own accord (cf. American Humanist Association, 2020). Both atheism and agnosticism can be linked to a humanist stance, and atheism can be associated with agnosticism. Nevertheless, secularists and researchers have started using these three labels for (exclusive) self-identification (Humanists International, 2018; Pew Research Center, 2018, 2019). They were also the most frequently chosen labels in the present study (see below). Given their different foci, we assumed that they were also based on different world views: While atheism predominantly entails a *rejection* of god and/or religion, agnosticism *doubts* metaphysical certainty, and humanism *affirms* a value oriented worldview independent of supernatural forces. Because of their distinct positioning as non-believers, we expected self-identified atheists to report higher degrees of *atheism* and lower degrees of *agnosticism* than agnostics and humanists. Furthermore, we examined differences on the following worldview dimensions.

Dimensions of a Worldview

Apart from being used as a label for self-identification ("humanist"), *humanism* denotes a "philosophy concerned to emphasize human welfare and dignity" (Blackburn, 2008, p. 171). It is expressed in what humanists understand to be the core feature of their stance, namely an ethical, value-based approach to life and society (cf. Schnell, 2015). Atheists in particular are confronted with the widespread negative sentiment that they lack moral virtue (Edgell et al., 2006, 2016; Gervais et

al., 2017). Several studies have refuted this prejudice, but only a few distinguished between different secular positions: Schroeder et al. (2018) found similar rates of offending among atheists and agnostics as among committed religious believers. Keller and colleagues (2018) investigated degrees of generativity, a commitment to future generations and the greater good, among atheists, other non-believers, and believers. No differences were established between self-identified atheists and other non-believers. Schnell (2015) assessed degrees of humanism among self-identified atheists and agnostics; they did not differ significantly. We therefore hypothesized that neither atheism nor agnosticism would be indicative of a lack of humanism, nor of its presence. Due to their explicit commitment to humanist values, we assumed humanism would be higher among humanists relative to both atheists and agnostics.

A rejection of the idea that there is a divine plan or supernatural order to this world suggests that each individual is personally responsible for their lives (cf. Sartre, 2001). In an interview study with ten atheists, Stinson et al. (2013) established a sense of *personal responsibility* as a core value of the worldviews related by most atheists. In Schnell's study (2015), atheists and agnostics reported comparable scores in personal responsibility. We therefore expected no differences between atheists and agnostics, but had no hypothesis for humanists.

Scientism is defined as an "attitude that regards science as the ultimate standard and arbiter of all interesting questions; or alternatively that seeks to expand the very definition and scope of science to encompass all aspects of human knowledge and understanding" (Pigliucci, 2013, p. 144). Several sources classify it as a central dimension of secular identities (cf. Harris, 2011; Pigliucci, 2013). In his examination of new atheism as ideology and social movement, LeDrew (2013) comes to the conclusion that new atheism is a social movement with an evangelical approach, employing a dualistic worldview which sees religion as the cause of social problems, and science as the ultimate engine of progress. Especially when contrasted with secular humanism, LeDrew sees the goals of new atheists to promote a scientistic worldview, whereas secular humanists promote a shared responsibility for social justice. Schnell (2015) found comparable degrees of scientism among self-identified atheists and agnostics. We thus hypothesized lower degrees of scientism among humanists than among atheists.

Economic materialism denotes an appreciation of possessions and financial prosperity as the key to a good life. Atheism is often assumed to be associated with economic materialism because of common stereotypes (Edgell et al., 2006). This link might be based on the assumption that, when religious or spiritual beliefs are shunned, material goods take their place. No empirical studies could be identified which tested the claim. An explicit espousal of the central value of material goods is very rare in general. One particular advocate of this view is so-called objectivism, based on the philosophy of Ayn Rand (1905-1982) who propagated an ethics of self-interest. In his analysis of new atheism, LeDrew (2013) reported prominent figures thereof to defend increasing wealth disparity and to argue for acknowledging the ideas of Ayn Rand. Due to weak evidence, we explored differences in economic materialism between the three groups without asserting a priori hypotheses.

Skepticism is a denial of the possibility of knowledge or rational belief (Blackburn, 2008). In a weaker sense, and closer to the original Greek term, it means a strong commitment to enquiry, questioning, and critical thinking. In a study of attitudes towards evolution and consciousness, Beniermann (2019) found no correlation between atheism and skepticism, an epistemic belief scale from the DoS (Färber et al., 2013). Agnosticism and skepticism share the element of doubt. Le Poidevin suggests that "agnosticism is a state of mind; scepticism is a method. And in so far as scepticism leads to agnosticism, we might say that scepticism is the cause and agnosticism the

effect" (2010, p. 39). He adds that most agnosticism is confined to a particular subject matter, such as the existence of the supernatural, whereas skepticism is more wide-ranging. The literature thus pointed us toward the hypothesis of particularly high levels of skepticism among agnostics, but not atheists.

Worldviews can be more or less closed, and dogmatic. *Dogmatism* is defined as 'relatively unchangeable, unjustified certainty' about the truth of one's beliefs, reflecting 'conviction beyond the reach of evidence to the contrary' (Altemeyer, 1996, p. 201). In the US and Canada, Hunsberger and Altemeyer (2006) found atheists to be surprisingly high in dogmatism, i.e. nearly as high as fundamentalist Christians. Uzarevic, Saroglou, and Clobert (2017) assessed dogmatism in believers and nonbelievers in the UK, France, and Spain. Both atheists and agnostics appeared as less dogmatic than believers in self-reported dogmatism, whereas the picture changed for subtly measured intolerance of contradiction and myside bias: In all three countries, atheists and agnostics were more intolerant of contradiction and more biased than religious individuals. Silver and colleagues (2014) used qualitative methodology to identify subgroups of nonbelief and then test for differences in dogmatism. They determined six types of nonbelief: Intellectual Atheist/Agnostic, Activist Atheist/Agnostic, Seeker-Agnostic, Anti-Theist, Non-Theist, and Ritual Atheist/Agnostic. Dogmatism was significantly higher among Anti-Theists than among all other types. We therefore hypothesized that dogmatism would be higher among atheists than among agnostics and humanists.

Existential search denotes an attitude of openness to questioning and changing one's worldview, contrasting the certainty and closedness of dogmatism. Existential search has been shown to be more closely linked with spirituality than with religiosity, atheism, or agnosticism (Schnell et al., 2020), but no differences between atheism and agnosticism have been reported. Having measured existential quest, an operationalization of an openness to changing and questioning one's worldview, Uzarevic and colleagues (2019) found no difference in existential quest between atheists and agnostics. Thus we did not make explicit hypotheses and instead explored differences between the three groups on this worldview dimension.

For several decades, scholars have noted a privatization of religion (e.g., Bellah et al., 1985; Luckmann, 1967; Roof & Greer, 1993). Among German youth (aged 14 – 21), 84% never talk about religious topics; in the entire population, this is true for 77% (EKD, 2014). Does such taciturnity also exist with regard to secular beliefs? Studies indicate that especially atheistic attitudes are often concealed. McClure (2017) reported that parents whose attitudes describe an atheistic position nevertheless avoid self-identification as atheist because they associate atheism with inherent militancy. Abbott and Mollen (2018) examined atheists' outness in relation to anticipated stigma; they found a concealment of atheist identity to be positively correlated with anticipated stigma. Mackey and colleagues (2020) also researched concealment of nonreligious identity in relation to social identity threat. In a sample of 1,249 US-American atheists, agnostics, humanists, and "nothing in particular," only atheists reported concealing their atheist identity. Because the reported studies were all conducted in the United States, a country with a high degree of prejudice against atheists (Gervais et al., 2017), we were unable to deduce hypotheses concerning *concealment* and *disclosure* in European countries. Cultural differences can not only affect worldview communication, but also their content and the certainty with which they are represented, as we argue next.

Cultural Context

Manifestations of secularity differ with cultural context. Zuckerman (2012) compared nonreligious Americans with nonreligious Danes and Swedes, contrasting a highly religious and a

more secular cultural context. He reported that for the American participants, the rejection of religion had been a struggle, while in the lives of the Scandinavians it had been an almost insignificant experience. Moreover, the nonreligious from highly religious America had a more negative attitude towards religion than those from secular Scandinavian countries. The findings suggest that highly religious societies can produce strong secular counter-movements. This is also implied by the thesis of Cimino and Smith (2014), who claim that the growth of conservative religion in the US has led to an upsurge among atheists.

In order to take into account worldview effects of cultural context, the present study was conducted in three countries with different degrees of secularity: Germany, Austria, and the Netherlands. According to the Freedom of Thought Report (Humanists International, 2019), Germany exerts systemic to severe discrimination of the nonreligious, and has been allotted a discrimination score of 3.3 (range: 1 to 5). In Austria, discrimination was less severe (score 2.7), and the Netherlands were evaluated as free and equal (score 1.0). As for the number of religious vs. non-religious citizens, 26% of Dutch citizens self-identify as religious; in Germany and Austria the figures are higher at 34% and 39% respectively (Smith, 2018). Because Germany allegedly discriminates against secular people more than Austria, but Austrians are more often religious than Germans, both countries were collapsed into one category of 'more religious/less secular' (vs. the Netherlands' designation as 'nonreligious/secular'). Assuming Zuckerman's (2012) and Cimino and Smith's (2014) conclusions are correct, we expected to find more distinct and convinced secular positions and disclosure in the more religious countries of Germany and Austria than in the secular Netherlands.

Gender

Finally, in line with often replicated gender differences, we expected men to endorse atheism more strongly than women (Bainbridge, 2005; Edgell, Frost, & Stewart, 2017, Schnell, 2015). Schnell (2015) also found scientism more prominent among men, and agnosticism among women, in a student sample, but no gender differences for atheism, agnosticism, scientism, humanism, and personal responsibility in a general population sample. The reasons for the religious gender gap (Hackett et al., 2016) – and a putative atheism gap (Schnabel et al., 2016) – have not been unanimously established. Socialization, gender orientation, and biologically predisposed risk preferences are being discussed (Mahlamäki, 2012; Schnell, 2021), but none of these would offer a clear rationale for expecting gender differences in the worldview dimensions investigated here. Therefore we explored gender differences instead of making a priori hypotheses.

Method

Participants

In total, 2,202 participants completed the questionnaire. Thirty-eight percent ($n = 842$) self-identified as "atheist," 33% ($n = 731$) as "humanist," and 11% ($n = 241$) as "agnostic." Only these three groups ($n = 1,814$) were included in the following analyses, while the 7% who self-identified as "free thinkers" and the 10% who preferred different labels ("other") were excluded from the analyses. The sample used here was thus composed of $n = 1,217$ German (67%), 382 Dutch (21%), and 215 Austrian (12%) respondents. Age ranged from 16 to 90 ($M = 46$, $SD = 16$). Sixty percent were male, 39% female, and 1% identified as "other." The study was advertised as investigating the diversity of nonreligious people's worldviews. Participants were recruited via secular organizations, print and broadcast media, and social networks. All questionnaires were completed online. Inclusion

criteria were a minimum age of 18 and self-identifying as a secular person. No incentives were offered. The research was carried out in accordance with the Declaration of Helsinki. Participation was entirely voluntary. All participants declared their consent by signing up for participation of their own accord, after receiving a written invitation and study information. All participants were aware that they could withdraw from the study at any time. Because data was collected anonymously in an online survey, a full ethics review process was not required as per applicable institutional and national guidelines and regulations.

Measures

Self-Identification

Participants were asked which secular identification most closely applied to them, with the following options offered: atheist, agnostic, humanist, freethinker, other – with the possibility to add a specification for the latter.

Atheism and Agnosticism

The DoS (Dimensions of Secularity; Schnell, 2015) inventory was employed to obtain dimensional measures of *atheism* and *agnosticism* (5 items each; Cronbach's $\alpha = .72$ and $.86$; sample items for atheism: "The existence of a god/a higher power is wishful thinking"; "There is no divine plan for the universe"; "God did not create man, but man created god"). Sample items for agnosticism: "We will never know if there is a god/a higher power"; "The question whether there is a higher power/a god is finally unanswerable"; "It is impossible to solve the question of the existence of a higher power/a god").

Further Worldview dimensions

The following scales were also taken from the DoS (Schnell, 2015): *humanism* (4 items, Cronbach's $\alpha = .63$; sample items: "Tolerance is one of my most important principles"; "I treat other people with kindness"; "We have the duty to help the needy"). *Personal responsibility* (5 items; Cronbach's $\alpha = .86$; sample items: "I alone am to be held responsible for my actions and omissions"; "Every human being is responsible for his or her own life"; "Our fate is in our own hands"). *Scientism* (4 items; Cronbach's $\alpha = .84$; sample items: "I trust in science and technology to solve the problems of humankind"; "Science provides solutions to all our problems"; "Only the natural sciences can make valid statements about the world"). From extensions of the DoS inventory (Färber et al., 2013; see also supplementary material), two more scales were included: *economic materialism* (5 items; Cronbach's $\alpha = .74$; sample items: "For me, the pursuit of prosperity is part of the good life"; "The more we can buy, the happier we are"; "Security and prosperity are more important than something like meaningfulness"), and *skepticism* (4 items; Cronbach's $\alpha = .63$; sample items: "I doubt that there are absolute truths"; "What is true or false is ultimately not ascertainable"; "We can see the world as it really is" (neg.)). All DoS scales use a six-point Likert scale from 0 (do not agree at all) to 5 (agree completely). *Dogmatism* was assessed by Altemeyer's (2002) 20 item dogmatism scale (German version: Rangel, 2009; sample items: "I am absolutely certain that my ideas about the fundamental issues in life are correct"; "I have never discovered a system of beliefs that explains everything to my satisfaction" (neg.); "My opinions are right, and will stand the test of time"). Response format was a Likert scale from 0 (do not agree at all) to 8 (agree completely), Cronbach's α was $.87$. *Existential search* was assessed by a 3 item scale (Schnell & Geidies, 2016; Schnell et al., 2020) using a six-point

Likert scale from 0 to 5 (Cronbach's $\alpha = .68$; items: "As far as my worldview is concerned, I am in constant development"; "I find it important to critically question my worldview again and again"; "I am willing to change my basic assumptions about the world if they do not turn out to be valid").

Also from extensions to the DoS inventory, two scales assessing *convictional communication* were administered: *concealment* (3 items; Cronbach's $\alpha = .66$; items: "My beliefs are too personal to discuss with strangers"; "I only talk about my beliefs with very close people"; "I don't like to talk about my worldview") and *disclosure* (3 items; Cronbach's $\alpha = .82$; items: "Others shall know about my convictions"; "I communicate regularly with others about my worldview"; "I am committed to promoting my beliefs").

For the Dutch version of the DoS and existential search scales, the original German version was translated by a Dutch native speaker and back-translated by a bi-lingual (German-Dutch) speaker. The author of the scales then compared the back translation with the original scales, resulting in several corrections and an agreed final translation. The dogmatism scale was translated into Dutch from the original English version, re-translated and reconciled with both the original and the German version by the co-authors.

Statistical Analyses

Skewness and kurtosis for all scales were $< +/-2$, indicating near-normal data distribution (George & Mallery, 2016). To examine worldview differences between the three self-identifications as atheist, agnostic, and humanist, a series of distinct, by country, one-way analyses of variance were conducted. Levene's F tests revealed that the homogeneity of variance assumption was not met for a large part of the scales. Therefore, the Welch's F test was used throughout. Alpha error accumulation was accounted for by applying Bonferroni-Holm correction per country. For post-hoc tests, Games-Howell was used. Differences between the Netherlands and Germany/Austria, and between women and men were tested by means of t -tests. Bonferroni-Holm correction was applied. Hedges' g – which takes sample sizes into consideration – was used here as effect size measure.

Results

For the total sample, descriptive statistics and scale intercorrelations are presented in Table 1. Atheism and agnosticism correlated negatively with each other. Moreover, both showed entirely different correlation patterns with regard to the other nine worldview dimensions; in seven cases the correlations were even opposite. Relationships between age and worldview dimensions were small. Descriptive statistics for the self-identifications as atheist, agnostic, and humanist are presented in Table 2. For all three countries, self-identified atheists showed fairly extreme values: their endorsement of atheism approached the highest end of the measure, while their agnosticism scores were in a rejecting range. Self-identified agnostics, on the other hand, reported a similarly high endorsement of agnosticism as of atheism; these scores were in the medium-high range. Humanists, in turn, mirrored the preferences of atheists (higher endorsement of atheism, lower agreement with agnosticism), but in a more moderate way.

Worldview Differences Between Self-Identified Atheists, Agnostics, and Humanists

Self-identified atheists, agnostics, and humanists differed significantly with respect to most worldview variables (see Table 2). *Atheism* and *scientism* were more strongly endorsed by atheists than by the other two groups (in all three countries). *Materialism* was higher among atheists than

among humanists (in Germany and the Netherlands). *Dogmatism* was higher among atheists than among humanists (in all three countries); atheists were also more dogmatic than agnostics (in Germany and the Netherlands).

Agnosticism was significantly higher among agnostics than among atheists and humanists (in all three countries). *Skepticism* was endorsed most by agnostics (in Germany and Austria), and least by atheists (in all three countries). *Existential search* was higher among agnostics than atheists (in Germany). *Concealment* of convictions was more typical for agnostics than for atheists (in Germany and Austria). *Disclosure* was lower among agnostics than among atheists and humanists (in Germany), among atheists (in Austria) and among humanists (in the Netherlands).

Humanism was stronger among humanists than among atheists and agnostics only in Germany, whereas in both other countries, the scores were comparable in all three groups. Existential search was more pronounced among humanists than among atheists (in Germany and the Netherlands). *Personal responsibility* was rated similarly by all three groups (in all three countries). Figure 1 illustrates the differences between the three self-identifications. By means of additional multinomial regression analyses (not shown), we ascertained that the worldview differences between the three self-identifications were not attributable to gender effects.

Figure 1

Atheist, Agnostic, and Humanist Worldview Profiles in Comparison

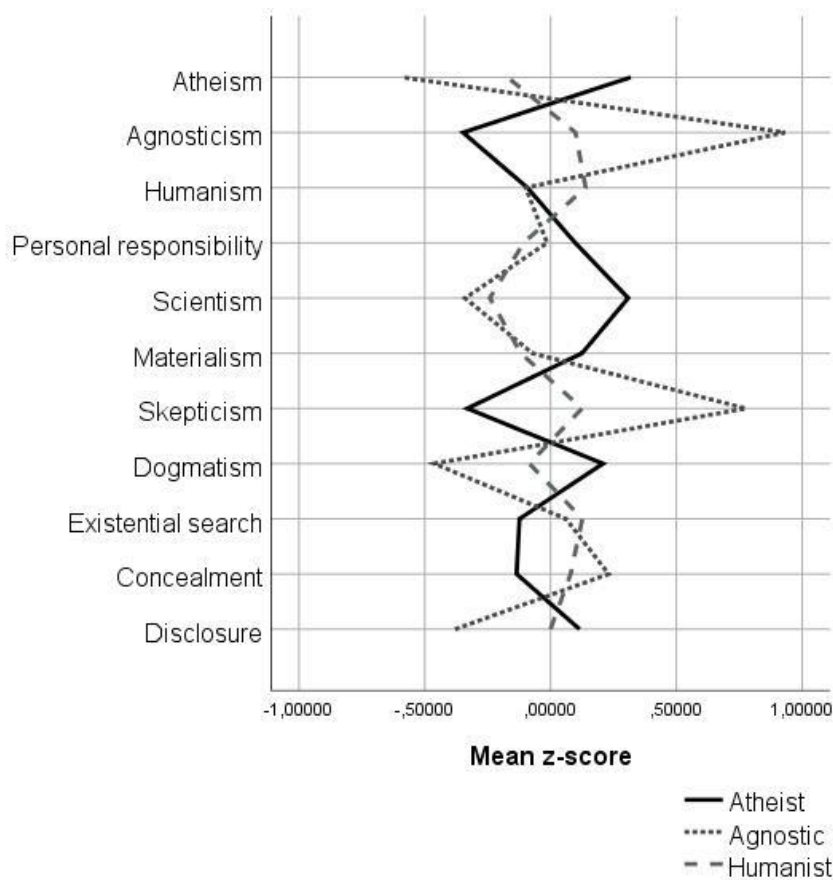


Table 1

Descriptive Statistics and Correlations for Study Variables (Total Sample, N = 1,814)

Worldview dimension	<i>M</i>	<i>SD</i>	1	2	3	4	5	6	7	8	9	10	Age
1. Atheism ^a	4.25	1.00	—										-.07**
2. Agnosticism ^a	2.22	1.56	-.27***	—									.02
3. Humanism ^a	3.83	0.73	.05*	.01	—								-.06**
4. Personal responsibility ^a	3.37	1.04	.15***	-.09***	.08***	—							-.15***
5. Scientism ^a	3.02	1.28	.39***	-.33***	.37***	.06**	—						-.14***
6. Economic materialism ^a	1.60	0.86	.13***	-.10***	.16***	-.21***	.35***	—					.03
7. Skepticism ^a	2.29	1.07	-.27***	.65***	-.12***	-.00	-.44***	-.18***	—				.06*
8. Dogmatism ^b	2.60	1.20	.14***	-.34***	.06**	-.14***	.28***	.20***	-.41***	—			.07**
9. Existential search ^a	3.48	1.14	.02	.08**	.04	.21***	-.00	-.05*	.09***	-.36***	—		-.19***
10. Concealment ^a	1.21	1.01	-.14***	.13***	-.03	-.11***	-.11***	.06*	.19***	-.03	-.10***	—	.05*
11. Disclosure ^a	2.42	1.31	.18***	-.17***	.07**	.13***	.25***	.10***	-.20***	.18***	.23***	-.43***	-.04

^a Response format 0-5. ^b Response format 0-8. * $p < .05$. ** $p < .01$. *** $p < .001$.

Table 2

Means, Standard Deviations, and One-Way Analyses of Variance (Welch) for Atheists, Agnostics, and Humanists

Worldview dimension	Atheists				Agnostics				Humanists				F	η ²	Post-hoc tests ^c
	M	SE	95% CI		M	SE	95% CI		M	SE	95% CI				
			LL	UL			LL	UL			LL	UL			
Germany (n = 656, 172, 389)															
Atheism ^{aa}	4.58	0.03	4.53	4.64	3.68	0.09	3.51	3.85	4.32	0.05	4.22	4.43	53.66 ^{***}	.10	all
Agnosticism ^a	1.65	0.06	1.54	1.76	3.63	0.09	3.45	3.82	2.20	0.08	2.04	2.35	164.15 ^{***}	.17	all
Humanism ^a	3.78	0.03	3.72	3.84	3.79	0.05	3.68	3.89	4.06	0.03	4.00	4.12	24.29 ^{***}	.03	hu-at, hu-ag
Pers. respon. ^a	3.49	0.04	3.41	3.57	3.37	0.08	3.21	3.52	3.46	0.05	3.35	3.56	0.88	.00	
Scientism ^a	3.44	0.04	3.35	3.53	2.61	0.09	2.43	2.80	3.14	0.06	3.02	3.27	33.71 ^{***}	.05	all
Materialism ^a	1.66	0.04	1.59	1.73	1.43	0.06	1.31	1.55	1.50	0.04	1.41	1.58	7.52 ^{**}	.01	at-ag, at-hu
Skepticism ^a	1.91	0.04	1.83	1.98	3.10	0.07	2.96	3.24	2.27	0.05	2.17	2.37	109.82 ^{***}	.14	all
Dogmatism ^b	2.84	0.05	2.75	2.94	1.95	0.08	1.80	2.11	2.50	0.06	2.39	2.62	48.74 ^{***}	.06	all
Ex. search ^a	3.31	0.05	3.21	3.40	3.54	0.08	3.38	3.70	3.75	0.06	3.64	3.86	17.69 ^{***}	.03	ag-at, hu-at
Concealment ^a	1.06	0.04	0.98	1.13	1.37	0.09	1.20	1.55	1.16	0.05	1.06	1.26	5.87 ^{**}	.01	ag-at
Disclosure ^a	2.64	0.05	2.54	2.74	2.01	0.09	1.83	2.19	2.78	0.07	2.65	2.90	24.73 ^{***}	.04	at-ag, hu-ag
Austria (n = 117, 44, 54)															
Atheism ^a	4.70	0.05	4.60	4.79	3.76	0.15	3.46	4.05	3.74	0.19	3.35	4.13	27.79 ^{***}	.19	all
Agnosticism ^a	1.73	0.14	1.46	1.99	3.92	0.17	3.59	4.26	2.56	0.23	2.10	3.02	51.89 ^{***}	.26	all
Humanism ^a	3.75	0.08	3.60	3.91	3.55	0.13	3.28	3.82	3.90	0.09	3.72	4.08	2.46	.02	
Pers. respon. ^a	3.66	0.09	3.48	3.84	3.56	0.15	3.27	3.86	3.39	0.13	3.14	3.64	1.47	.01	
Scientism ^a	3.57	0.10	3.37	3.78	2.81	0.20	2.41	3.21	2.82	0.16	2.50	3.15	10.66 ^{***}	.09	at-ag, at-hu
Materialism ^a	1.78	0.08	1.61	1.95	1.80	0.13	1.54	2.06	1.46	0.09	1.27	1.65	3.91 [*]	.03	at-hu

Worldview dimension	Atheists			Agnostics			Humanists			F	η^2	Post-hoc tests ^c
	M	SE	95% CI	M	SE	95% CI	M	SE	95% CI			
			LL UL			LL UL			LL UL			
Skepticism ^a	<i>2.05</i>	0.09	1.87 2.23	<i>3.21</i>	0.13	2.96 3.47	<i>2.53</i>	0.14	2.24 2.82	28.13***	.18	All
Dogmatism ^b	<i>2.60</i>	0.11	2.38 2.82	<i>2.13</i>	0.17	1.80 2.47	<i>2.14</i>	0.12	1.90 2.39	4.82**	.04	at-hu
Ex. Search ^a	<i>3.70</i>	0.10	3.50 3.89	<i>3.59</i>	0.17	3.26 3.93	<i>4.01</i>	0.11	3.78 4.23	3.03	.02	
Concealment ^a	<i>0.88</i>	0.08	0.71 1.05	<i>1.60</i>	0.20	1.19 2.01	<i>1.36</i>	0.16	1.04 1.69	7.44**	.07	ag-at, hu-at
Disclosure ^a	<i>2.63</i>	0.13	2.38 2.88	<i>1.93</i>	0.21	1.50 2.36	<i>2.40</i>	0.17	2.06 2.74	3.97*	.04	at-ag

The Netherlands (n = 69, 25, 288)

Atheism ^a	<i>4.18</i>	0.11	3.96 4.40	<i>3.31</i>	0.20	2.91 3.72	<i>3.81</i>	0.06	3.69 3.94	8.23***	.03	at-ag, at-hu
Agnosticism ^a	<i>1.91</i>	0.16	1.59 2.22	<i>3.52</i>	0.20	3.12 3.93	<i>2.56</i>	0.07	2.42 2.71	20.58***	.07	all
Humanism ^a	<i>3.59</i>	0.07	3.45 3.73	<i>3.90</i>	0.12	3.65 4.15	<i>3.76</i>	0.04	3.68 3.83	3.19*	.02	
Pers. respon. ^a	<i>2.95</i>	0.11	2.74 3.16	<i>2.87</i>	0.18	2.49 3.25	<i>2.96</i>	0.06	2.85 3.08	.11	.00	
Scientism ^a	<i>2.92</i>	0.13	2.66 3.17	<i>2.00</i>	0.21	1.57 2.43	<i>2.10</i>	0.07	1.97 2.24	16.88***	.07	at-ag, at-hu
Materialism ^a	<i>1.99</i>	0.11	1.77 2.20	<i>1.77</i>	0.19	1.38 2.15	<i>1.50</i>	0.05	1.40 1.59	8.75***	.05	at-hu
Skepticism ^a	<i>1.97</i>	0.13	1.71 2.22	<i>3.10</i>	0.21	2.68 3.53	<i>2.61</i>	0.06	2.49 2.73	14.20***	.07	ag-at, hu-at
Dogmatism ^b	<i>3.35</i>	0.15	3.04 3.66	<i>2.51</i>	0.27	1.96 3.06	<i>2.55</i>	0.06	2.42 2.68	11.46***	.07	at-ag, at-hu
Ex. search ^a	<i>3.00</i>	0.14	2.73 3.28	<i>3.52</i>	0.19	3.12 3.92	<i>3.38</i>	0.06	3.26 3.49	3.63*	.02	hu-at
Concealment ^a	<i>1.58</i>	0.11	1.37 1.79	<i>1.65</i>	0.20	1.24 2.07	<i>1.45</i>	0.05	1.36 1.55	.96	.01	
Disclosure ^a	<i>1.79</i>	0.14	1.50 2.07	<i>1.32</i>	0.21	0.90 1.74	<i>1.93</i>	0.06	1.80 2.05	4.10*	.02	hu-ag

Note. Mean scores in italics for better visibility. Bold = significant after Bonferroni-Holm adjustment.

^a Response format 0-5. ^b Response format 0-8. ^c Significant Games-Howell post-hoc tests. * $p < .05$. ** $p < .01$. *** $p < .001$.

Cultural Impact

Levels of *atheism*, *scientism*, and *personal responsibility* were higher in Germany/Austria than in the Netherlands (see Tab. 3; medium to large effects). *Agnosticism* and *skepticism*, on the other hand, were more pronounced in the Netherlands (small to moderate effects). Levels of *humanism* and *existential search* were slightly higher in Germany/Austria. *Concealment* of convictions was more evident in the Netherlands (moderate effect), whereas *disclosure* was more evident in Germany/Austria (medium effect). No differences showed with regard to *economic materialism* and *dogmatism*.

Table 3

Results of T-Tests Comparing German/Austrian (n = 1432) and Dutch (n = 382) Participants

Worldview dimension	German/Austrian		Dutch		<i>t(df)</i>	<i>p</i>	<i>g_{Hedges}</i>	95% CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
Atheism ^a	4.36	0.96	3.85	1.07	8.48 (556.40)	<.001	.52	-.63	-.40
Agnosticism ^a	2.15	1.62	2.51	1.30	-4.55 (730.47)	<.001	.23	.12	.34
Humanism ^a	3.85	.75	3.74	0.64	3.03 (678.34)	.003	.15	-.26	-.04
Personal responsibility ^a	3.48	1.03	2.96	0.97	8.90 (1811)	<.001	.51	-.63	-.40
Scientism ^a	3.23	1.23	2.24	1.17	14.07 (1811)	<.001	.81	-.93	-.70
Materialism ^a	1.60	.87	1.61	.85	-0.17 (1811)	.70	.01	-.10	.13
Skepticism ^a	2.22	1.06	2.53	1.07	-4.94 (1811)	<.001	.29	.18	.41
Dogmatism ^b	2.78	1.21	2.69	1.19	-1.66 (1811)	.10	.08	-.19	.04
Existential search ^a	3.52	1.17	3.32	1.01	3.38 (677.24)	.001	.18	-.29	-.06
Concealment ^a	1.14	1.04	1.49	.84	-6.92 (727.20)	<.001	.35	.24	.46
Disclosure ^a	2.57	1.32	1.86	1.12	10.58 (690.35)	<.001	.55	-.67	-.44

Note: *ps* two-sided. Bold = significant after Bonferroni-Holm correction. ^a Response format 0-5.

^b Response format 0-8.

Gender Effects

Several gender effects were consistent between countries (see Table 4). Men in all three countries reported higher degrees of *atheism*. They were also higher in *scientism*. Women, in turn, reported higher degrees of *skepticism* and *agnosticism*, although the latter effect was not significant in Germany. In Germany and Austria, women tended to *conceal* their convictions more than men.

Table 4
Results of T-Tests Comparing Women and Men

	Women		Men		<i>t</i> (<i>df</i>)	<i>p</i>	<i>g</i> _{Hedges}	95% CI	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
Germany (n = 414, 790)									
Atheism ^a	4.25	1.06	4.44	.87	3.11 (710.21)	.002	.20	.08	.32
Agnosticism ^a	2.18	1.60	2.08	1.60	-1.10 (1202)	.27	.06	-.18	.06
Humanism ^a	3.96	.77	3.83	.72	-2.97 (1202)	.003	.18	-.30	-.06
Personal responsibility ^a	3.63	.97	3.39	1.05	-3.84 (1202)	<.001	.24	-.35	-.12
Scientism ^a	3.04	1.28	3.33	1.18	3.83 (1202)	<.001	.24	.12	.36
Materialism ^a	1.49	.84	1.62	.87	2.32 (1202)	.02	.15	.03	.27
Skepticism ^a	2.39	1.05	2.09	1.05	-4.76 (1202)	<.001	.29	-.41	-.17
Dogmatism ^b	2.61	1.23	2.60	1.21	-0.14 (1202)	.89	.01	-.13	.11
Existential search ^a	3.42	1.26	3.52	1.14	1.42 (767.93)	.16	.09	-.03	.20
Concealment ^a	1.28	1.09	1.06	.96	-3.50 (753.16)	<.001	.22	-.34	-.10
Disclosure ^a	2.40	1.31	2.70	1.29	3.77 (1202)	<.001	.23	.11	.35
Austria (n = 94, 117)									
Atheism ^a	4.02	1.22	4.46	.80	3.06 (154.12)	.003	.44	.16	.71
Agnosticism ^a	2.86	1.52	1.99	1.71	-3.90 (206.75)	<.001	.53	-.81	-.26
Humanism ^a	3.76	.80	3.76	.82	-0.02 (209)	.99	.00	-.27	-.27
Personal responsibility ^a	3.57	.96	3.59	.95	-0.09 (209)	.93	.17	-.44	.10
Scientism ^a	2.87	1.20	3.54	1.17	4.07 (209)	<.001	.57	.29	.84
Materialism ^a	1.66	.83	1.75	.87	0.79 (209)	.43	.11	-.17	.38
Skepticism ^a	2.76	1.04	2.11	1.01	-4.59 (209)	<.001	.64	-.91	-.36
Dogmatism ^b	2.18	1.13	2.56	1.10	2.42 (209)	.02	.34	.07	.62
Existential search ^a	3.67	1.09	3.83	.97	1.13 (209)	.26	.16	-.12	.43
Concealment ^a	1.51	1.35	.87	.83	-4.08 (147.44)	<.001	.59	-.86	-.31
Disclosure ^a	2.18	1.35	2.62	1.36	2.31 (209)	.02	.33	.05	.60
The Netherlands (n = 196, 185)									
Atheism ^a	3.68	1.14	4.02	.96	3.16 (373.80)	.002	.32	.12	.52
Agnosticism ^a	2.72	1.23	2.28	1.33	-3.36 (379)	.001	.34	-.55	-.14
Humanism ^a	3.81	.64	3.65	.64	-2.44 (378)	.02	.25	-.45	-.05
Personal responsibility ^a	2.92	.97	2.99	.97	0.70 (378)	.49	.07	-.13	.27

	Women		Men		<i>t(df)</i>	<i>p</i>	<i>g_{Hedges}</i>	95% <i>CI</i>	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>				LL	UL
Scientism ^a	2.00	1.16	2.50	1.13	4.20 (378)	<.001	.44	.23	.64
Materialism ^a	1.41	.81	1.81	.85	4.69 (378)	<.001	.48	.28	.69
Skepticism ^a	2.82	.95	2.21	1.09	-5.82 (378)	<.001	.60	-.80	-.39
Dogmatism ^b	2.55	1.12	2.85	1.24	2.53 (377)	.01	.25	.05	.46
Existential search ^a	3.25	1.06	3.39	.95	1.31 (376.08)	.19	.14	-.06	.34
Concealment ^a	1.57	.87	1.41	.78	-1.86 (379)	.06	.19	-.40	.01
Disclosure ^a	1.73	1.06	2.00	1.16	2.32 (379)	.02	.24	.04	.45

Note: *ps* two-sided. Bold = significant after Bonferroni-Holm correction. ^a Response format 0-5.

^b Response format 0-8.

Discussion

The present study examined worldview dimensions reported by 1,814 self-identified atheists, agnostics, and humanists in Germany, Austria, and the Netherlands. Considering absolute values, the total sample can be described as highly atheist and moderately agnostic. Economic materialism and dogmatism scores were particularly low. The sample's mean dogmatism did not even exceed that of Altemeyer's (2002) student sample (after recalculating as sum scores). The absolute values also indicated that in none of the three countries, respondents felt a need to conceal their convictions. Relationships with age were absent or small, suggesting slightly higher existential search, personal responsibility, and scientism among younger participants. In terms of basic worldview beliefs, then, there appear to be few to no significant systematic age effects.

The dimensional measures of atheism and agnosticism were negatively correlated with each other. Both also correlated in different, mostly even opposite ways with the other worldview dimensions, supporting the notion that they represent two clearly distinguishable attitudes. This was also evident in the differences between self-identified atheists, agnostics and humanists. Self-identified atheists were characterised by particularly pronounced positions. Their average affirmation of atheism was very high, and their agnosticism scores were so low that they indicated rejection. Self-identified humanists followed this pattern, but with less distinction. Self-identified agnostics, on the other hand, revealed a more moderate attitude, expressed through simultaneous affirmation of agnosticism and atheism at the middle level.

Hypothesized differences between self-identified atheists, agnostics, and humanists were mostly confirmed, except for a few cases where findings were not significant in all three countries. Among self-identified *atheists*, atheism was highest and agnosticism lowest. They reported the strongest conviction of scientism, and the lowest regard for skepticism. Atheists in Germany described their worldview as significantly less searching and open as agnostics and humanists did; and in all three countries, atheists showed the highest dogmatism of all participants. In Germany and Austria, atheists concealed their worldview *less* than agnostics did: They did not see their convictions primarily as a private matter. In contrast to this "decided secularity," as we might call it, self-identified *agnostics* appeared as more "open." They reported the highest scores in agnosticism and skepticism, and the lowest in dogmatism. They were also least inclined to disclose their worldview to

the public. (Although the latter finding remained significant only in Germany after Bonferroni-Holm correction, scores in Austria and the Netherlands followed the same pattern.) This profile suggests that an agnostic worldview is not held with the same conviction as an atheist worldview – or that it might be more difficult to communicate at all, since its very character is one of indefiniteness. When attempting to identify a *humanist* worldview, the following pattern emerged: As expected, self-identified *humanists* reported the highest endorsement of humanism, but differences were small and only significant in Germany after Bonferroni-Holm correction. In Germany and the Netherlands, humanists showed lower materialism scores than atheists, which can be read as underlining the explicit value orientation in humanism. In atheism, agnosticism, scientism, skepticism, and dogmatism, humanists took up a middle position between atheists and agnostics. They seemed to follow the atheist preferences, although with less absolute conviction. Their stance might therefore be termed “confident but open”: They are convinced about their beliefs, but do not represent them with such determination that it amounts to a claim to absoluteness - and might thus undermine respect for other worldviews.

A Continuum from Decided to Open Secularity

The findings suggest a “continuum from decided to open secularity,” with humanists anchored in the middle of this continuum (see Figure 1). Self-identification as an atheist was associated with a decided attitude: Atheism and scientism are clear-cut stances that come with a sense of veracity and unambiguity. This was also reflected in the extreme degrees with which atheists affirmed atheism, in their rejection of agnosticism and skepticism and their comparably higher dogmatism. Self-identified agnostics, by contrast, were skeptical and undogmatic, which suggests a high degree of openness and tolerance for ambiguity. The decided position was more often disclosed, while the open position was linked to concealing one’s worldview.

Viewing secular positions with respect to their decidedness vs. openness is instructive, as several studies demonstrated that worldview decidedness is an important factor for mental health and coping with stress (Schnell et al., 2020; Weber et al., 2012). Research also suggests that it is necessary here to switch from categorical to dimensional assessment. Analogous to studies in the psychology of religion (Galen & Kloet, 2011; Wei & Liu, 2013; Yenziaras & Akarsu, 2017), evidence of curvilinear relationships has in fact also emerged in studies on secularity, highlighting the importance of decidedness. Spitzenstätter and Schnell (2020), for example, showed that high levels of atheism, like high levels of religiosity, were associated with less death anxiety and avoidance than moderate levels of atheism and religiosity. This was not the case for agnosticism, where higher scores were associated with higher death anxiety and avoidance.

Secular Positions Mirror Religious Stances

Our data revealed two secular positions - decided atheism and open agnosticism - that seem to have their likeness in the religious context. A “classical, traditional religiosity” has been characterized by clear convictions and closed-mindedness and can be understood to represent a decided stance, whereas spirituality, or spiritual religiosity, has repeatedly been identified as an open stance (Saroglou, 2002; Schnell, 2012). Decided positions, be they convinced atheist or religious, can provide a stable worldview basis. This is conducive to mental health, but also seems to indicate a tendency toward closed-mindedness. Open positions, be they agnostic or spiritual, seem to exhibit higher instability and also vulnerability (Schnell, 2012; Spitzenstätter & Schnell, 2020; Vittengl, 2018).

Based on their position of “decided openness,” one could assume that humanists combine the advantages of both sides – but this idea still needs to be tested.

Religious Culture – More Decided Secularity

Analyses of cultural differences clearly distinguished worldviews of Dutch vs. German/Austrian participants. As expected, respondents from Germany and Austria – associated with more religiosity and less secularity – reported higher atheism, scientism, and personal responsibility, and lower agnosticism and skepticism. They also disclosed their worldview more often than the Dutch, and viewed it less as a private matter. The more religious/less secular cultural background thus predicted a more decided secularity. This supports postulates by Lanman (2009) and Zuckerman (2012) who suggested a positive relationship between the presence of religion in the public sphere and a sharper, more defined, or “harder” atheist response to it. Accordingly, secular positions in the Netherlands, where secularity is characteristic of the majority culture, were more open and less decided – arguably because there is no need to counter religious pressure or demands.

Our finding that German and Austrian atheists were more likely to disclose their convictions than their Dutch counterparts, and concealed them less, is also consistent with Cimino and Smith’s (2014) thesis, stating that atheists are more outspoken in cultural environments marked by discrimination or suppression of secular views. On the other hand, it is in conflict with Mackey et al.’s (2020) finding that non-religious individuals from strongly religious areas in the United States concealed their non-religious identity more than individuals from less religious areas. This might be due to the fact that their concealment was linked to stigma consciousness. It could therefore be concluded that secular individuals in Germany and Austria tend to have low stigma consciousness - which remains to be tested.

Atheism as a Boys’ Club?

The hypothesized gender effect was also replicated by the data: In all three countries, men reported higher scores in atheism. They also showed more trust in science than women, and – in Germany and Austria – they concealed their worldview less than women. Women, in turn, reported higher degrees of skepticism in all three countries, and they were more agnostic in Austria and the Netherlands. The pattern of these differences again suggests a more decided (more prominent among men) and a more open (more prominent among women) secularity. This finding could shed light on an ongoing discourse on “atheism as a boys’ club” (Brewster, 2013): Brewster describes the “hardcore atheist movement” as primarily shaped by men with aggressive and dogmatic attitudes.

Positioning the Continuum with Respect to Related Concepts

The continuum from decided to open secularity derived from the present study’s findings. Several authors have suggested related concepts, like “hard vs. soft secularity” (Kosmin, 2007), or “strong atheism vs. non-theism” (Lanman, 2009). Lanman understands strong atheism as an active moral opposition to all religion; similarly, Kosmin defines hard atheism as “eliminationist” and “confrontationist” (2007, p. 303). Non-theism is described as a lack of belief in all supernatural agents, thereby omitting any reference to the actual beliefs of non-theists. The terms “open” and “decided” secularity seem to cover a middle range between non-theism on the one side, and hard/strong secularity on the other side.

It should be stressed that the comparison of open and decided is not meant to imply a lack of

decisiveness when it comes to values in general. For example, as soon as the Dutch predominantly secular culture is threatened by, for instance, fundamentalist religious acts or discriminations by religious people, a strong disapproval is voiced by the media. Therefore, although the Netherlands were characterized by a less decided and more open secularity in our study, there still is a strong conviction of secular values like humanism. A similar pattern is found when comparing men and women, and atheists and agnostics: While differences occur in scientism, skepticism, and convictional communication, suggesting a continuum from decided to open, both sides advocate strong humanism.

Limitations and Generalizability Issues

The present study focused on the *if* and *how*, but not on the question of *why* people self-identify as atheist, agnostic, or humanist. Several studies suggest that religious and spiritual positions are differentially related to personality traits (Saroglou & Muñoz-García, 2008; Schnell, 2012; Streib et al., 2016). Such connections should also be examined further in relation to different secular positions (cf. Silver et al., 2014). It is also important to highlight that albeit its size, the present sample cannot be seen as representative for secular people. By advertising the study as aiming to explore secular worldviews, a self-selection bias has probably been activated, with mainly those feeling addressed who a) identified as secular, and b) had already reflected on their secularity. Therefore, non-theists or indifferent secular people are probably underrepresented in our sample. While this problem might not have occurred when addressing the general population, it would in turn have demanded an even much larger sample size, given the low numbers of explicit atheists, agnostics, or humanists especially in Austria and Germany. Moreover, the generalizability of the present findings to other European and non-European countries should be tested. Cultural differences between Germany, Austria, and the Netherlands are not that big. If an open secularity is mainly practiced in secular countries, can it be found at all in strongly religious countries, as a distinguishable agnostic or humanist position? State recognition or rejection of the freedom of (non)religion will also play an important role here.

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