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Cross-Cultural Perceptions of Mind and Soul: Ethical Implications of Cultural and Religious Intuitions

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Abstract: Research across cognitive science, psychology of religion, linguistics, philosophy, and anthropology emphasizes the intertwined concepts mind and soul in shaping individuals' perceptions. Both mind and soul significantly impact human intuitions, incorporating psychological, cognitive, religious, moral, and emotional dimensions. Correcting traditional dualistic perspectives on the mind-body relationship, recent studies advocate for a tripartite model (body, mind, and soul) to offer a holistic and nuanced comprehension of human cognition. Our investigation, spanning Catholic Poland (n = 225), Orthodox Ukraine (n = 272), and Islamic Kazakhstan (n = 198), validates the intuitive association of the soul beyond the mind. The results suggest that the soul operates independently of the mind, reflecting deep cultural and religious integration into human cognition. The ethical implications of distinguishing the soul from the mind are evident in participants' moral dilemma judgments. This research advances cross-cultural comprehension of cultural influences on mental concept development in social contexts.

Keywords: dualism, mind, soul, ethical reasoning, culture, human cognition.

Contribution: We offer a novel cross-cultural study of mental life across rarely compared cultural and religious groups, showing that mind and soul are consistently distinguished. This supports moving beyond mind-body dualism toward a body-mind-soul model and strengthens philosophical and cultural debates on cognition and moral reasoning.
OG performed the statistical analyses, wrote the Results section, and co-edited the Method section. OK adapted the questionnaire into Ukrainian and collected data in Lviv (Ukraine). LR collected data in Khmelnytskyi (Ukraine).

Use of AI: The authors declare no use of AI.

Introduction

Contemporary research within cognitive science, psychology, philosophy linguistics, and anthropology places significant emphasis on the notions of mind and soul in the context of our perceptions of both ourselves and others (Anglin 2014; Bering 2006; Boeri et al. 2018; Cohen et al. 2011; Luhrmann 2020; Richert and Harris 2008; Richert and Smith 2012; Swinburne 2013; Willard and McNamara 2019). The concepts of mind and soul, deeply rooted in folk psychology and religious thinking, intertwine to shape the fundamental intuitions humans exhibit toward their fellow beings (Chudek et al. 2018; Cohen and Barrett 2008; Richert and Harris 2008; Slingelard 2019; Swinburne 2013).

1. Complexity of Experience

The concepts of mind and soul encompass a wide spectrum of human life experiences, spanning from the psychological and cognitive realm to religious, moral, and emotional dimensions. They are intricately linked to processes such as mindreading, mind-perception, and intentions concerning fellow humans, as well as self-reflection and overall social interactions (Gray et al. 2007; Weisman et al. 2017). The domains of mind and soul serve as the foundation from which we derive our understanding of the self, grasp the essence of existence, and shape our perspectives on others. Furthermore, exploring the mind and soul draws our focus toward the transcendental, providing a framework for understanding the ultimate existence of both ourselves and others (Anglin 2014). In essence, discussions of the mind and soul transcend the physical dimensions of our corporeal form and immediate life processes. Instead, they venture into a realm that is accessible to the self, inherently diverse, and internally complex—a nuanced territory that resists straightforward conceptualization (Bering 2006; Luhrmann 2020).

2. Mind, Body... and Soul?

The multifaceted nature of the broadly conceived mental realm has prompted cognitive science and psychology researchers to challenge the dualistic approach advocated by Bloom (2004) and Hodge (2008), among others. This approach encapsulates the perceptions of human nature through the lens of the mind-body relationship while seeking to encompass the entirety of mental realm experiences within the framework of the concept of mind. However, it has been argued that this strategy "does not fully encompass the intricacies of human beliefs about other humans" (Richert and Smith 2012, 162; see also Richert and Harris 2008; Anglin 2014).

Contrary to dualistic assumptions, contemporary research with children and adults across diverse cultures demonstrates that individuals naturally distinguish between the mind and the soul in their cognitive processes (Fortuna et al. 2023; Gut et al. 2021; Harris and Corriveau 2021). Increasingly, studies (Bering 2006; Cohen et al. 2011; Dulin 2020; Richert and Smith 2012) reveal that processes perceived as detached from the body—such as those identified by children—are often categorized into mental and spiritual dimensions. Moreover, the inclination toward beliefs about the afterlife may not arise solely from testimonial practices (Harris et al. 2018) or reinforcement through social conventions (Richert et al. 2017), but rather appears to represent a default cognitive stance (Bering 2006).

Richert and Smith (2010) underscore that "child and adult conceptions of the soul cannot be attributed to a mislabeling or maturation of what is viewed as traits of the mind" (p. 101). Notably, a widespread conjecture across various cultures posits that the soul emerges earlier than the mind and persists after death, whereas the mind may not (Gut et al. 2021; Richert and Harris 2008; Roazzi et al. 2013).

Conceptually, treating the soul as distinct from the faculties of the mind marks a significant departure from the traditionally entrenched frameworks confined to the mind-body dichotomy (Boeri et al. 2018; Swinburne, 2013; Skrzypińska 2022). A tripartite model of cognition,

encompassing body, mind, and soul, challenges perspectives asserting that mind-body dualism arises solely from distinct cognitive systems evolved to interpret human or human-like mental experiences, social interactions, and reasoning about individuals versus the physical world (Bloom 2004).

Proponents of the tripartite model critique the notion that the soul is merely a subset of the mind, arguing that dualistic thought patterns fail to capture culture-specific intuitive perspectives on mental life. Scholars assert that this intuitive perception often described as *naïve* frequently evokes discussions about the soul rather than the mind, particularly when addressing existential uncertainties, such as the question of post-death existence. This perspective resonates with broader conversations about personal identity and moral faculties, underscoring the soul's prominence in navigating such fundamental inquiries (Anglin 2014; Richert and Harris 2008; Richert and Smith 2012).

3. Current Study: Three Different Cultural and Religious Traditions

To test the validity of the tripartite approach to perceiving and understanding others, it is crucial to broaden the research scope to encompass diverse cultural and religious contexts, accounting for cultural divergences in human reasoning about others. An important aspect in this strategy is that participants from different cultural contexts are explicitly asked about the existence, origin, mutability, and post-mortem fate of the mind and the soul, as well as the functions attributed to each of these entities. Based on respondents' answers, the ontological and functional status of key concepts in folk psychology is reconstructed. Following this, we adopt the same strategy by applying a Principal Component Analysis (PCA) to examine whether the ontological characteristics and functions attributed, for example, to the soul and the mind can be separated into two distinct categories (Gut et al. 2021; Richert and Harris 2008).

We argue that the tripartite model emerges across diverse cultural and religious contexts, influenced less by a universal cognitive mechanism and more by shared anticipations and patterns of social interaction. These shared anticipations and patterns are socially transmitted and context-specific frameworks for interpreting mental phenomena, rather than innate dispositions.

This study aims to explore beliefs about the mind and soul when reasoning about others within diverse cultural domains characterized by distinct languages, histories, and religions. It draws on data from three distinct cultural, linguistic, and social zones shaped by different religious traditions: Western Christianity (Poland), Orthodox (Ukraine), and Islamic (Kazakhstan). This cross-cultural research strengthens the argument that the concept of the soul operates independently from the concept of the mind.

To clarify the soul's distinction from the mind and its integration into human cognition, this study examines soul conceptualizations across diverse cultural zones (Inglehart and Baker 2000) and religious traditions. This approach responds to calls for exploring specific sociocultural contexts in research on mental concepts (Willard and McNamara 2019) and allows for identifying culture-specific variations. Differentiating the soul from the mind is justified by research showing the distinction's influence on moral systems, life goals, health behaviors (Forstmann et al. 2012), and ethical judgments, particularly in moral dilemmas (Richert et al. 2017). Examining how ontological attributions to the soul correlate with ethical evaluations of scenarios involving early-life (e.g., stem cell research) and end-of-life situations (e.g., euthanasia) should further uncover the soul's role in shaping participants' folk psychology and activating specific ethical perspectives.

4. Conceptual Landscapes of the Mind and Soul in the Three Cultural Contexts

The conceptualization of the mind and soul is shaped by the unique traditions within each examined culture. Poland, Ukraine, and Kazakhstan remained under the influence of Marxist ideology and strong communist parties for many decades, which attempted to make that ideology a common sense in social life (Marková et al. 1998; Varnum et al. 2008). The ideological influence was closely related to the Soviet system of economic nationalization, secularization, physical oppression, restricted mobility, and the expropriation of private property, particularly in post-Soviet countries such as Kazakhstan and Ukraine, compared to Central European countries such as Poland. Nonetheless, the prevailing ideology in these countries for several decades reinforced collectivistic thinking and dialectical materialism, which manifested in a centrally planned economy, collective education, secular ethics, and an anti-religious attitude (Inglehart and Baker 2000).

4.1. Poland

Polish culture shares its philosophical and literary heritage with the broader European tradition. Poles distinctly delineate the spiritual and physical realms, alongside differentiating intellect from emotion as distinct facets of human personhood (Tatarkiewicz 1973). Consequently, the Polish language encompasses two distinct terms for the mind ('*umysł*') and the soul ('*dusza*') (Wierzbicka 1992; Ostanina-Olszewska and Despot 2017). Importantly, despite Poland's historical period of socialism, the country retains a deep-rooted Catholic identity, reflecting both the institutional and folk dimensions of this Christian denomination.

4.2. Ukraine

Ukraine is a country that formed after the breakup of the Soviet Union in 1991. Historically, the dominant religion in Ukraine is Orthodoxy.

However, throughout the existence of the Soviet Union, an active repressive policy aimed at atheizing society was pursued. As a result, it is estimated that in 1982, only 20% of the country's population was actively practicing (Steinberg and Wanner 2008), while the percentage of atheists in 1991 was estimated to be as high as 60%. The religious policy was liberalized on the occasion of the millennium of the baptism of Kievan Rus in 1988, with a particular intensification of this process after Ukraine gained independence in 1991. In Ukrainian literature, the term *розум* is used to translate the English word *mind* or the German word *geist*. *Розум* refers to the totality of an individual's cognitive and analytical abilities and is a broader concept than intellect. The Ukrainian equivalent of *soul* is *душа*, which signifies the immortal part of human personality (Novikova 2020).

4.3. Kazakhstan

Kazakhstan, like Ukraine and partly Poland, belongs to the post-Soviet landscape. Situated in Central Asia, Kazakhstan's historical narrative is intertwined with a nomadic way of life (Nezhina and Ibrayeva 2013) and a commitment to traditional norms and family values. The nation is marked by the institutional and moral influence of Islam, coupled with a paternalistic and somewhat collectivist societal orientation infused with a Soviet-style approach to economic management (Nezhina and Ibrayeva 2013). In contrast to Polish and Ukrainian, Western and Eastern Slavic languages, respectively, the Kazakh language, a Turkic language, employs two distinctive terms for the concept of soul ('*jan*') and mind ('*akyl-oi*' or simply '*akyl*') (Zhabayeva 2022). Both concepts, particularly the soul, are deeply ingrained in Kazakh mentality and customs. This immersion is shaped by the Turkic universe, which includes elements of the ancient Tengrianism religion, influencing the spiritual landscape of ancient Turks. Additionally, the enduring influence of Islamic practices and traditions has been integral to Kazakh life since the 10th century (Louw 2007).

5. Method

The study received approval from the Board for Ethical Research at The John Paul II Catholic University Lublin, Poland. The questionnaire and dataset supporting the results of this study are openly accessible from Gut et al. (2025).

5.1. Participants

Informed consent was obtained from all participants before data collection commenced. Participants were students from Poland, Ukraine, and Kazakhstan. In Poland, there were 225 students aged 18–38 (*Mean* = 21.43, *SD* = 2.77); in Ukraine – 272 students aged 17–35 (*Mean* = 19.44, *SD* = 2.16); two observations were excluded due to missing data; in Kazakhstan – 198 students aged 17–27 (*Mean* = 21.82, *SD* = 2.08). Participants were recruited from various departments in each country, including linguistics, management, tourism, law, and civil engineering. The necessary sample size ($N \geqslant 200$ for each country) was determined based on a significance level of $\alpha = 0.05$, a desired statistical power of $1 - \beta = 0.90$, and an anticipated population effect size of $r \geqslant 0.20$.

5.2. Procedure

Paper questionnaires were administered to participants in all three countries. Most participants completed the questionnaires in a classroom setting, at their teacher's request, or at home. Participation was voluntary and students were informed that they could withdraw from the study at any time after reviewing the questions. In Poland, participants came from Lublin and Olsztyn; in Ukraine – from Lviv and Khmelnytskyi; and in Kazakhstan – from Almaty and Shymkent. Approximately 85% of complete questionnaires were returned to the researchers.

5.3. Measures

A questionnaire developed by Harris and Richert (2008) in the USA was applied to assess ontological, functional, and ethical beliefs about the mind and soul. The tool has previously been used by Richert and Smith (2012) and Gut et al. (2021). The questionnaire was back-translated into Polish, Ukrainian, and Kazakh by two bilingual translators proficient in these languages, one of whom was a native speaker of all three.

5.3.1. Ontology

Following previous research (Richert and Harris 2008), participants were asked whether they believed in the existence of the mind and the soul. Responses were scored from 0 to 2: "no" (0), "not sure" (1), and "yes" (2). Participants were also asked about the timing of the mind and soul's emergence, with options including "prior to conception," "at conception," "during pregnancy," "at birth," and "never." Scores ranged from 1 ("prior to conception") to 5 ("never"), with higher scores indicating a later perceived starting point.

Participants were then queried about whether the mind and soul remain constant or develop over the lifespan, with response options of "is constant," "not sure," and "develops." Responses were scored as follows: "constant" (0), "not sure" (1), and "develops" (2).

Another question addressed the fate of the mind and soul at death, with options including "nothing," "ceases to exist," "continues in an afterlife," and "continues in reincarnation."

5.3.2. Functions

To explore functions attributed to the mind and soul, participants answered a series of questions about their perceived roles, such as, "If I had lost my mind, I would have lost my ability to solve problems." Participants were asked to imagine losing their mind or soul and to indicate whether they would still retain certain abilities. The following abilities were assessed: "ability to solve problems," "ability to think," "ability to distinguish right from wrong," "life force," "continuity after death," "ability to remember," "ability to connect to a higher power," "spiritual essence," "ability to feel

emotion," and "ability to reason." Responses were recorded on a 5-point scale: 0 "no," 1 = "rather not," 2 = "not sure," 3 = "rather yes," and 4 = "yes." Higher scores indicated greater certainty that the respective ability would be lost if the mind or soul were absent.

5.3.3. Ethical reasoning

Participants responded to three ethical questions: "Should scientists be allowed to use embryos for stem cell research?," "Should people in a persistent vegetative state (PVS) be disconnected from life support?," and "Should scientists be allowed to create human clones?" Responses were recorded on a 5-point scale, ranging from 1 ("strongly disagree") to 5 ("strongly agree"). These ethical questions were preceded by items assessing whether specific entities – an embryo, a person in a vegetative state, and a clone – possess both a mind and a soul. This served as an applied reference and a way to assess how individuals think about specific entities and the related ethical questions. Responses were recorded on a 5-point scale, ranging from 0 ("no") to 4 ("yes").

5.3.4. Religiosity

Religiosity was measured using a five-item Duke University Religion Index (DUREL; Koenig 2010). External religiosity was assessed with two questions: "How often do you attend church or other religious meetings?" and "How often do you devote time to prayer, meditation, and religious practices?" Responses were recorded on a 6-point frequency scale, from 1 ("never") to 6 ("several times a week"). Internal religiosity was measured with three statements: "In my life, I experience the presence of the Divine," "My religious beliefs are what really lie behind my whole approach to life," and "I try hard to carry my religion over into all other dealings in life." Responses were recorded on a 5-point scale, from 1 ("strongly disagree") to 5 ("strongly agree").

6. Results

6.1. Ontological Questions

We used a Wilcoxon Signed-Ranks Test to examine the difference in participants' certainty about the existence of the mind and the soul. Participants were less certain about the existence of the soul than about the existence of the mind, both in Ukraine (83.1% vs. 94.7%; $z = 4.05$, $p < 0.001$, $r = 0.25$) and Poland (85.8% vs. 94.7%; $z = 2.95$, $p < 0.01$, $r = 0.20$). However, no difference was found for Kazakhstan (99.0% vs. 99.0%; $z = 0.74$, $p = 0.458$), where participants were certain about the existence of both.

Additionally, the Pearson Chi-square test revealed that Kazakh students were more convinced about the existence of the soul ($\chi^2(4) = 33.65$, $p < 0.001$; $V = 0.16$) and the mind ($\chi^2(4) = 10.41$, $p < 0.05$; $V = 0.09$) compared to Poles and Ukrainians, although the difference between Poles and Ukrainians was nonsignificant.

Next, participants were asked about their beliefs regarding when the soul and the mind begin to exist (see Table 1). A Wilcoxon Signed Ranks Test examined the differences in responses, which were scored ordinally from 1 ("prior to conception") to 4 ("at birth"). The answer "never", which was also an option, was excluded from the rank test. In all countries, students believed the soul appears earlier than the mind: Ukraine ($z = 7.55$, $p < 0.001$, $r = 0.47$), Poland ($z = 6.94$, $p < 0.001$, $r = 0.48$), and Kazakhstan ($z = 11.44$, $p < 0.001$, $r = 0.82$). The Kruskal-Wallis test shows that Polish students located the beginning of both the mind ($\chi^2(2) = 173.94$, $p < 0.001$) and the soul ($\chi^2(2) = 18.58$, $p < 0.001$) at an earlier point than Ukrainians. On the other hand, Kazakh students placed the moment of the soul's appearance much earlier (at conception) than the mind (at birth).

A Pearson Chi-square test further confirmed that participants treated the mind and the soul differently in Kazakhstan than in the other two countries ($\chi^2(4) = 81.18$, $p < 0.001$, $V = 0.25$). Specifically, 44.8%, 38.5%, and 12.2% of Polish, Ukrainian, and Kazakh participants, respectively, claimed that the mind and soul begin at the same time. In contrast, 48.1%, 49.2%,

and 85.7% of Polish, Ukrainian, and Kazakh participants, respectively, claimed the soul begins before the mind. The opinion of Kazakh students, namely that the soul begins before the mind, significantly deviated from students from European countries. Overall, the results indicate cultural variability regarding the beginning of the soul and the mind.

Next, we examined differences in participants' responses to what happens to the mind and soul over the lifespan (see Table 1). Mind change and soul change responses were scored ordinally, ranging from 0 ("is constant") to 2 ("develops over time"). Participants from Poland (91.9% vs. 45.5%; $z = 9.24$, $p < 0.001$, $r = 0.64$), Ukraine (94.4% vs. 51.7%; $z = 8.90$, $p < 0.001$, $r = 0.56$), and Kazakhstan (98.5% vs. 60.1%; $z = 6.05$, $p < 0.001$, $r = 0.43$) maintained that the mind undergoes more development than the soul. In all three groups, most participants claimed that the mind changes over time, with Kazakhs being most convinced of this as compared to Poles and Ukrainians ($\chi^2(4) = 13.55$, $p < 0.01$). Kazakhs were also more convinced than Poles and Ukrainians that the soul changes over time ($\chi^2(4) = 14.42$, $p < 0.01$). These results suggest a similar conceptualization of the mind as having more developmental structure than the soul across the three countries.

Finally, we examined culturally specific perspectives on what happens to the mind and soul at biological death. Participants' nominal responses were categorized into broader groups (see Table 1). McNemar's test was used to assess whether the soul or mind ceases at death. In Poland (90.6% vs. 31.8%; $\chi^2(1) = 117.07$, $p < 0.001$), Ukraine (80.0% vs. 30.4%; $\chi^2(1) = 117.60$, $p < 0.001$), and Kazakhstan (52.5% vs. 5.5%; $\chi^2(1) = 76.68$, $p < 0.001$), students were convinced that the soul lasts longer than the mind. However, compared to other groups, Kazakh students held a stronger belief that the mind ceases to exist with biological death (89.8%; $\chi^2(2) = 47.42$, $p < 0.001$, $V = 0.26$), while Polish students (81.3%; $\chi^2(2) = 56.04$, $p < 0.001$, $V = 0.29$) were markedly more inclined to believe in the soul's continuation in an afterlife. Thus, the results point to significant cultural variations in views on what happens to the mind and soul at biological death.

Table 1. Participants' beliefs about the soul and the mind

Beliefs	Ukraine		Poland		Kazakhstan	
	Mind	**Soul**	**Mind**	**Soul**	**Mind**	**Soul**
about beginning:						
• prior to conception	4.1%	16.3%	4.5%	17.8%	0.0%	3.0%
• at conception	14.1%	38.8%	33.0%	55.9%	2.0%	52.5%
• during pregnancy	52.2%	25.9%	42.5%	14.6%	20.7%	35.4%
• at birth	29.6%	18.3%	19.9%	10.3%	77.3%	9.1%
• never	0.0%	0.8%	0.0%	1.4%	0.0%	0.0%
about constancy:						
• it remains constant	1.9%	33.3%	0.9%	37.6%	1.0%	33.3%
• not sure	3.7%	14.9%	7.2%	16.9%	0.5%	6.6%
• it develops	94.4%	51.7%	91.9%	45.5%	98.5%	60.1%
what happens at biological death:						
• nothing	5.6%	5.7%	5.5%	3.3%	4.6%	12.6%
• ceases to exist	63.9%	14.2%	62.7%	6.1%	89.8%	34.8%
• continues in an afterlife	15.4%	53.6%	26.7%	81.3%	2.5%	48.5%
• continues in reincarnation	15.0%	26.4%	5.1%	9.3%	3.0%	4.0%
N	270	263	221	213	198	198

6.2. Functional Questions

We examined the patterns of functions attributed to the mind and soul by comparing the rotated component matrices across Ukraine, Poland, and Kazakhstan. The Kaiser-Meyer-Olkin (KMO) test of sampling adequacy and Bartlett's test of sphericity (χ^2) provided support for exploring shared dimensions within each country regarding the functions of the mind and soul (see Table 2).

Table 2. Functional differences

Factors analyzed	Ukraine		Poland		Kazakhstan	
	Mind	**Soul**	**Mind**	**Soul**	**Mind**	**Soul**
KMO	0.77	0.81	0.80	0.87	0.84	0.92
Bartlett's $\chi^2(45)$	799.60*	951.25*	869.83*	1505.40*	892.81*	2372.99
Eigenvalues	3.38, 1.97, 1.11, 0.73,0.68	3.25, 2.67, 0.85, 0.71,0.61	3.52, 2.58, 0.80, 0.68,0.58	4.93, 2.31, 0.80, 0.45,0.40	4.27, 2.04, 0.86, 0.67,0.51	7.56, 0.67, 0.47, 0.37,0.30
Explained variance	64.6%	59.3%	60.9%	72.4%	63.1%	75.7%
Optimal solution	3	2	2	2	2	1

* $p < 0.05$.

6.2.1. Functions of the mind

A Principal Component Analysis (PCA) with an equamax rotation was applied to identify the dimensions in which participants ascribed functions to the mind. Based on Kaiser's criterion (eigenvalues > 1.0), the eigenvalues for Ukraine suggested a three-component solution, while for Poland and Kazakhstan, the eigenvalues suggested a two-component solution. In Ukraine, the first dimension describes cognitive functions attributed to the mind, including the ability to think (0.86 – here and in subsequent factor loadings), solve problems (0.82), and reason (0.81). The second dimension mostly represents energy-related functions, such as feeling emotions (0.80), having a life force (0.77), and possessing a spiritual essence (0.69). The third dimension describes supernatural functions, including the ability to connect to a higher power (0.87) and continue to exist after death (0.82).

In Poland, PCA revealed that the first dimension represents the cognitive functions of the mind, including the ability to think (0.85), solve problems (0.81), remember (0.80), and reason (0.76). The second dimension describes both energy-related and spiritual functions, such as

spiritual essence (0.85), the ability to connect to a higher power (0.81), the idea of continuing to exist after death (0.73), the ability to feel emotions (0.69), and the concept of one's life force (0.55).

In Kazakhstan, PCA revealed that the first dimension represents the cognitive functions of the mind, which includes abilities to solve problems (0.84), think (0.83), and remember (0.76), as well as the ability to distinguish right from wrong (0.84) – a characteristic not found in Poland and Ukraine. The second dimension describes energy-related and spiritual functions, as it comprises spiritual essence (0.85), life force (0.76), the experience of feeling emotions (0.74), and the belief in continuing to exist after death (0.67). The ability to connect to a higher power is explained almost equally by both dimensions.

6.2.2. Functions of the soul

Next, we analyzed the cultural variability of functions attributed to the soul. According to Kaiser's criterion (eigenvalues > 1.0), eigenvalues for Poland and Ukraine suggested a two-component solution (see Table 2), while for Kazakhstan – a one-component solution. For Poland, the first dimension can be described as cognitive and emotional functions, including the ability to think (0.91), reason (0.91), solve problems (0.88), remember (0.87), feel emotions (0.69), and have a life force (0.65). The second dimension can be described as spiritual and moral, consisting of the ability to connect to a higher power (0.88), spiritual essence (0.87), belief in continuing to exist after death (0.84), and the ability to distinguish right from wrong (0.64).

In Ukraine, the first dimension of the soul describes cognitive functions such as the ability to think (0.87), reason (0.84), remember (0.82), and solve problems (0.79). The second one includes spiritual and moral functions, such as spiritual essence (0.82), the ability to connect to a higher power (0.71), belief in continuing to exist after death (0.70), the ability to distinguish right from wrong (0.68) and to feel emotions (0.61), and the concept of life force (0.55).

In contrast, the one-dimensional structure observed in Kazakhstan integrates cognitive, supernatural, and moral functions, including the ability to reason (0.95), remember (0.94), think (0.92), distinguish right from wrong

(0.91), solve problems (0.89), possess spiritual essence (0.88), feel emotions (0.87), and connect to a higher power (0.85). These results indicate the culture-dependent nature of the functions attributed to the soul.

6.3. Soul Spirituality and Mind Spirituality

Next, we explored the conceptual positioning of the mind and the soul relative to each other in the three cultures. We calculated two general spirituality variables: the "soul spirituality" score and the "mind spirituality" score. These variables measure the degree to which individuals attribute spiritual or metaphysical significance to the concept of the soul and the mind, respectively. The scores were computed from participants' responses to the ontological and functional questions. Participants were given one point for each of the following if they claimed the mind or soul: (a) exists before birth, (b) does not change, (c) survives death, (d) contributes to a person's life force, (e) contributes to a person's ability to live on after they die, (f) contributes to a person's ability to connect to a higher power, and (g) contributes to a person's spiritual essence. Scores ranged from zero to seven. A higher score on either scale indicates that the soul or mind is perceived as a transcendent faculty, detached from the biological lifecycle and contributing to a continuous human essence.

A paired-samples t-test indicated that in each country, the mean soul spirituality score was statistically higher than the mind spirituality score, and standardized mean differences were between 1.02 and 1.52 (see Table 3).

Table 3. Soul spirituality and mind spirituality

Country	Object	*M*	*SD*	*t*	*df*	Cohen's *d*
Ukraine	mind	1.94	1.28	-15.90	202	1.02
	soul	4.16	1.82			
Poland	mind	2.36	1.41	-20.25	243	1.42
	soul	4.99	1.59			
Kazakhstan	mind	2.79	1.52	-22.99	193	1.52
	soul	5.29	1.32			

To further explore potential cultural differences in conceptualizations of the mind and the soul, we analyzed the differences between ontological and functional spirituality. The "soul ontological spirituality" score and "mind ontological spirituality" score were computed using participants' responses to the ontological questions regarding the soul or the mind: (a) exists before birth, (b) does not change, (c) survives death. Scores ranged from zero to three. A higher score indicates that participants attribute more ontological significance to either the soul or the mind. A Paired-Samples t-test showed that in the three countries, the mean soul ontological spirituality score was higher than that of the mind (see Table 4).

Next, the "soul functional spirituality" score and the "mind functional spirituality" score were calculated using participants' responses to the functional questions concerning the soul or the mind: (a) contributes to a person's life force, (b) contributes to a person's ability to live on after they die, (c) contributes to a person's ability to connect to a higher power, and (d) contributes to a person's spiritual essence. Scores ranged from zero to three. A higher score indicates that participants attribute more spiritual functions to either the soul or the mind. A paired-samples t-test indicated that in all countries, the mean soul functionality score was higher than the mind functionality score (see Table 4). This suggests that participants, on average, rated the soul as having more spiritual functions than the mind.

However, the results above do not indicate whether individual participants distinguished the soul from the mind in terms of spirituality. To compare individual responses, each participant's mind spirituality score was subtracted from their soul spirituality score. The majority of participants from Ukraine (61.8%) and Poland (74.1%) attributed at least one more spiritual component to the soul than the mind. In the case of Kazakhstan, this advantage was smaller, with 37.7% of participants attributing at least one more spiritual component to the soul compared to 25.0% attributing it to the mind.

Table 4. Ontological and functional mind and soul spirituality

Country	Items	Ontological				Functional			
		Mind	Soul	*t*	*d*	Mind	Soul	*t*	*d*
Ukraine	*M*	1.03	1.94	-13.70*	0.86	0.94	2.17	-11.14*	0.70
	SD	0.74	0.82			1.09	1.46		
Poland	*M*	1.13	2.16	-16.88*	1.18	1.17	2.85	-14.89*	1.03
	SD	0.61	0.72			1.25	1.36		
Kazakhstan	*M*	0.28	1.77	-24.59*	0.85	2.51	3.48	-9.76*	1.44
	SD	0.48	0.70			1.43	1.07		
	F	111.52	14.10			97.99	55.31		
	ω	0.25	0.04			0.22	0.14		

* $p < 0.05$.

Overall, the results suggest that the soul is more extensively conceptualized in spiritual terms compared to the mind. It is ontologically detached from the biological life cycle and functionally dedicated to opening the cognizing agent towards transcendence, thereby influencing ethical decisions.

6.4. Religiosity, Spirituality, and Ethics

We explored whether the differentiation of the soul from the mind is deeply embedded in common psychology. Participants were asked whether an embryo, a human in a vegetative state, and a clone possess both a mind and a soul equally. This serves as an applied reference and a way to test how individuals think about specific agents, for which the debate revolves around their mental or ontological distinctiveness and uniqueness.

In the first phase, participants were asked whether they believed that an embryo has a mind or a soul. The responses were coded ordinally, and a Wilcoxon Signed Ranks test was conducted to compare responses about the mind and the soul. In each country, participants were more likely to say

that an embryo has a soul than a mind: Poland ($z = 6.81$, $p < 0.001$, $r = 0.47$), Ukraine ($z = 6.84$, $p < 0.001$, $r = 0.42$), and Kazakhstan ($z = 11.67$, $p < 0.001$, $r = 0.83$). Interestingly, while there were no significant differences in opinions on this matter between Poland and Ukraine, Kazakh participants were twice as likely to reject the notion that an embryo possesses a mind compared to their belief in its possession of a soul.

Furthermore, participants in each country were more likely to believe that a person in a persistent vegetative state (PVS) has a soul rather than a mind: Poland ($z = 5.10$, $p < 0.001$, $r = 0.35$), Ukraine ($z = 4.53$, $p < 0.001$, $r = 0.28$), and Kazakhstan ($z = 10.59$, $p < 0.001$, $r = 0.76$). Notably, the difference was smaller in Ukraine and much larger in Kazakhstan.

Next, participants from Poland ($z = 2.70$, $p < 0.01$, $r = 0.19$) and Ukraine ($z = 4.91$, $p < 0.001$, $r = 0.30$) were more likely to believe that a human clone has a mind rather than a soul. In contrast, respondents in Kazakhstan ($z = 2.69$, $p < 0.01$, $r = 0.19$) were more inclined to believe the opposite, stating that a human clone has a soul rather than a mind.

In the second phase, we explored the ethical attitudes of the three cultural groups by examining the extent of connections between ethical questions framed in the form "should scientist be allowed…." (see Method). We computed the "ethics total score" based on all three ethical reasoning items (Cronbach's alpha was 0.64, 0.55, and 0.76 for Poland, Ukraine, and Kazakhstan, respectively). In the case of Poland and Ukraine, attitudes on all three issues were moderately related to each other (Spearman's *rho* ranging from 0.22 to 0.44, $p < 0.01$). However, among Kazakh respondents, all three attitudes were more strongly interrelated (Spearman's *rho* ranging from 0.51 to 0.67, $p < 0.001$) than in European countries.

Comparisons of ethical attitudes revealed that Kazakh students were significantly more opposed than students from Poland and Ukraine to the following: (1) scientists should be allowed to use embryos for stem cell research (64.5% vs. 45.1% vs. 53.3%; Kruskal-Wallis' $H = 16.96$, $p < 0.001$), (2) people in a persistent vegetative state (PVS) should be disconnected from life support (83.3% vs. 50.9% vs. 51.1%; Kruskal-Wallis' $H = 66.11$, $p < 0.001$), and (3) scientists should be allowed to make human clones (79.2% vs. 69.49% vs. 64.6%; Kruskal-Wallis' $H = 25.50$, $p < 0.001$). The

differences in attitudes between students from Poland and Ukraine, as confirmed by the Mann-Whitney U test, were nonsignificant.

To determine significant differences in religiosity between countries, a one-way ANOVA was conducted. The results showed no statistically significant differences in religiosity between Poland and Ukraine, neither in Durel ($p > 0.05$) nor in Durel intrinsic ($p > 0.05$). In contrast, Kazakh students exhibited significantly higher religiosity compared to students from Poland and Ukraine in both Durel ($F(2, 890) = 78.71$, $p < 0.001$) and Durel intrinsic ($F(2, 690) = 147.57$, $p < 0.001$).

Correlation analysis revealed a consistent trend across all countries: higher levels of religiosity correlated with more conservative ethical attitudes. In Poland ($r = -0.51$, $p < 0.001$) and Ukraine ($r = -0.42$, $p < 0.001$), this relationship was stronger than in Kazakhstan ($r = -0.27$, $p < 0.001$). Similarly, the results show significant associations between conservative ethical attitudes and identification with a religious community and the self-perception as a spiritual person in Poland ($r = -0.46$, $p < 0.001$ and $r = -0.30$, $p < 0.001$, respectively) and Ukraine ($r = -0.27$, $p < 0.001$ and $r = -0.21$, $p < 0.001$, respectively). In Kazakhstan, ethical attitudes correlated only with self-perception as a spiritual person ($r = -0.24$, $p < 0.001$).

Next, we examined whether the conceptualization of the soul and mind as a transcendent faculty is associated with ethical attitudes. Correlation analysis revealed a negative association between soul spirituality and ethical attitudes in each country: the higher the soul spirituality score, the more conservative the ethical attitudes. However, this association is weak in Ukraine and Poland (respectively, $r = -0.19$, $p < 0.01$ and $r = -0.16$, $p < 0.05$), while it is strong in Kazakhstan ($r = -0.52$, $p < 0.001$). Mind spirituality, in turn, moderately correlated with ethical attitudes in Kazakhstan ($r = -0.38$, $p < 0.001$), but no statistically significant correlation was found in Ukraine ($r = 0.03$) or Poland ($r = -0.07$).

Next, we explored the relationship between the ethics total score and participants' concepts of soul using regression analysis, controlling for participants' strength of religiosity. The regression predicting ethical attitudes from soul spirituality was nonsignificant in Poland ($\beta = 0.07$) and Ukraine ($\beta = -0.08$). However, the predictor of religiosity was significant in

both countries for ethical attitudes (β = -0.44 and β = -0.38, respectively, $p < 0.001$). In Kazakhstan, both soul spirituality (β = -0.49, $p < 0.001$) and religiosity (β = -0.15, $p < 0.001$) were significant. This indicates that each of these variables makes a unique contribution to explaining the variance in ethical attitudes.

To examine how soul spirituality relates to specific ethical questions, we explored the relationship between the question "Should scientists be allowed to make human clones?" (dependent variable) and participants' concepts of soul spirituality while controlling for their strength of identification with the religious community. In Poland, both soul spirituality (β = -0.17, $p < 0.05$) and identification with the religious community (β = -0.25, $p < 0.001$) were significant predictors of the ethics score. In Ukraine, identification with the religious community (β = -0.25, $p < 0.001$) was a significant predictor in the regression model, explaining the same variance as soul spirituality (β = -0.06, $p < 0.001$). In Kazakhstan, soul spirituality was a significant predictor (β = -0.40, $p < 0.001$) of the ethics score.

In summary, the results suggest that ethical attitudes are associated with distinct dimensions of religiosity and spirituality. While in Poland and Ukraine, ethical judgments are essentially related to religiosity, in Kazakhstan, they are mostly influenced by soul spirituality.

6.5. Discussion

This study aimed to explore beliefs about the mind and soul when reasoning about others within diverse cultural domains characterized by distinct languages, histories, and religions. The findings shed light on the nuanced interplay between cultural contexts and ontological versus functional perspectives of the mind and soul.

6.5.1. The Distinction Between the Mind and the Soul

Starting with a fundamental inquiry into the origins of the mind and the soul, we found a notable consensus among participants from three distinct cultures: the soul is generally believed to emerge earlier than the mind, often at conception or even before. In contrast, the mind's

existence is commonly associated with pregnancy or shortly after birth. This pattern is most pronounced in Kazakhstan, which may be due to the deeply ingrained concept of the soul in Kazakh mentality, as described earlier.

When addressing the question regarding the end of life, participants tend to connect the soul with the potential for independent existence beyond the physical body following biological death. Simultaneously, the three cultures recognize that the mind ceases to exist with the cessation of biological life.

Moreover, we found that ontological attributions to the soul differ significantly from those pertaining to the mind. Participants from all three cultures largely believe that the mind transforms over time, while the soul remains constant. Thus, participants appear to conceptualize the soul as possessing a temporal dimension capable of detaching from the physical body, while assigning the mind a lifespan similar to that of the body. As a product of mental functions such as thinking, memory, understanding, and problem-solving, the mind is perceived as more intertwined with the biological lifecycle compared to the soul. Our findings suggest a prevailing inclination to regard the soul as a more enduring element within the human being, ensuring a stable identity that withstands the myriad transformations brought about by growth and aging.

Our findings further support the idea that the concept of the soul may involve a psychological notion (Anglin 2014; Richert et al. 2017). This perspective proposes that when we engage with others, there is an inherent inclination to relate to them, potentially leading to attributions of a soul's existence. This attribution allows us to connect with the personal essence of another person, encapsulating within this connection a range of spiritual functions attributed to the other person.

We also contribute to the literature by constructing two variables to assess the stability of the distinction between the mind and soul across the three cultural environments: the soul spirituality score and the mind spirituality score were calculated. To explore potential cultural differences in conceptualizations of the mind and the soul more deeply, we also calculated the differences between ontological and functional

spirituality for both the mind and the soul, building on the research by Richert and Harris (2008).

Our analysis reveals that in each country, the mean soul spirituality score significantly surpasses the mind spirituality score, both in ontological and functional dimensions. Moreover, these mean differences do not exhibit significant disparities between countries, confirming that the three distinct cultures demonstrate a similar tendency to build upon a common folk psychology framework – an analogous conception in which the soul is both ontologically and functionally linked to the cultural domain associated with spirituality

To determine the conceptual differences between the soul and the mind, we also examined their functional dimension. Our results affirm that in all surveyed countries, the mean soul functionality score within the spirituality parameter was consistently higher than the mind functionality score. These findings underscore the notion that respondents' folk conception of the afterlife is intrinsically linked to considerations of a transcendent entity, particularly in the realm of the soul. This suggests that thinking about spirituality entails the attribution of the capacity to transcend one's self, fostering a connection with an unspecified transcendence, and acknowledging the hypothetical potential for enduring beyond biological death. Notably, this thinking predominantly pertains to the soul rather than the mind, and this trend persists across all three cultures.

Our study suggests that contemplating spirituality inherently involves considering or, at least, reflecting upon a transcendent being as a potential point of reference in the mentally enacted interactions undertaken by individuals. In this context, beliefs should be directed to the existence of an immortal soul or the notion of immortality. This interplay between spirituality and the conception of the soul underscores the interconnectedness of these two concepts and highlights the potential for a transcendent referent within our mental framework (see, Skrzypińska 2022). Our research, along with earlier studies (Richert and Harris 2008; Richert and Smith 2012), reveals that fully capturing the complexity of human beliefs about other humans necessitates considering the entire

spectrum of functions primarily attributed to the soul rather than the mind (Bering 2006; Gallagher 2009; Richert et al. 2017).

The results suggest that, irrespective of cultural background, our cognitive processes are characterized by a consistent tendency that defies a simple binary description, where one dimension is associated with mental processes and the other with bodily functions (Gut et al. 2021; Harris and Corriveau 2021). Contrary to the notion of a complete separation between the mental and the physical, our empirical data, supported by previous research, challenges the idea that the entirety of life distinct from the body should be categorized as mental and included under the umbrella of the mind. Instead, our findings indicate that folk thinking across various cultural settings acknowledges the coexistence of distinct concepts of the mind and the soul, each with unique characteristic, eschewing the schema of simple dualism (Anglin 2014; Richert et al. 2017).

6.5.2. Implications for Ethical Judgments

To evaluate the depth and cross-cultural consistency of the soul-mind-body model within folk psychology, as well as its function as an influential cognitive perspective, we examined its potential association with ethical judgments.

In the first step, we inquired whether respondents believed that entities such as embryos, individuals in a persistent vegetative state (PVS), and clones possessed a mind or a soul. The results consistently demonstrated that participants, regardless of religious and cultural backgrounds (with the strongest effect observed in Kazakhstan), were more inclined to attribute a soul rather than a mind to embryos and individuals in PVS, and that a human clone has a mind rather than a soul. When contemplating intermediate states between life and death, such as PVS or the transition from embryo to fetus, individuals tend to associate these beings with traits related to the soul rather than those related to the mind (cf., Gray et al. 2011).

We also examined whether beliefs about the soul were linked to approval of activities such as stem cell research, cloning, and the removal of life support (Richert and Harris 2008). These ethical questions were

closely interconnected, reflecting participants' views on issues that intersected science, ethics, and spirituality. Our analysis, incorporating the generalized factors of soul spirituality and mind spirituality, revealed that soul spirituality correlated negatively with ethical attitudes in all three countries. This means that higher levels of soul spirituality were associated with more conservative ethical stances. Again, this relationship was most pronounced in the group from Kazakhstan, which can be explained by the deeply ingrained concept of the soul in Kazakh mentality. However, notably, mind spirituality showed no significant correlation with ethical attitudes. These findings highlight the importance of differentiating between the soul and mind in shaping individuals' ethical outlooks, with beliefs about the soul playing a central role in influencing attitudes toward complex ethical dilemmas.

Furthermore, ethical attitudes were correlated with religiosity in each country: the higher the level of religiosity, the more conservative the ethical attitudes. Even when breaking down religiosity into smaller components within each of the three countries, we observed a similar relationship between ethical attitudes and factors such as identification with a religious community and self-identification as a spiritual person. Additionally, we found that soul spirituality, independent of religiosity, made a unique contribution to explaining the variance in ethical attitudes. In particular, in Poland and Ukraine, soul spirituality emerged as a significant predictor of ethical scores, irrespective of identification with a religious community. Thus, it can be concluded that moral decisions, which have consequences for various forms of social interaction and attitudes toward individuals in a persistent vegetative state (PVS), are significantly influenced by our inclination to attribute characteristics to the soul.

6.5.3. Culture-Specific Conceptions of the Mind and Soul

The results from three distinct cultural and religious groups may potentially be generalized to other groups. On one hand, we identify commonalities present across different cultures; on the other hand, our results capture culturally specific conceptions of the mind and soul. For example, we observe that belief in the existence of the soul is strongest

in Kazakhstan, where the differentiation between the mind and soul is most pronounced at the ontological level, but less so at the functional level. Conversely, in Poland and Ukraine, the functionality of the mind and soul is more distinct. Cognitive functions such as thinking, memory, and planning are predominantly attributed to the mind rather than the soul, while the soul is more commonly associated with emotions and the pursuit of a transcendent connection.

Despite the visible differences among respondents raised in various cultural, religious, and linguistic groups, we observe a consistent tendency to distinguish between the mind and the soul. This tendency is not only associated with conceptions of death, when asked which part of a person continues after they die, but also when deliberating about the beginning of life and personal identity. Consistent with research by Richert and Harris (2008), Richert and Smith (2012), and Fortuna et al. (2023), which used similar methods, as well as research by Anglin (2014) involving adults from diverse cultural zones, we find that a certain established heuristic for distinguishing the soul from the mind exists in cross-cultural cognition. Whether we refer to countries historically belonging to different religious zones (Orthodox, Islam, Catholic, Confucian), linguistic zones (Chinese, English, Kazakh, Polish, Russian, Ukrainian), or with different historical experiences (post-communist, capitalist), as well as those situated in various geographical regions (Central/East/West European, Far/Middle East, Western), we observe that individuals who more clearly distinguish the soul from the mind—or, as Anglin (2014) puts it, locate the soul in the chest rather than the head, as they do for the mind—are less likely to adopt a materialist perspective on the existence of the self. Consequently, they are more likely to entertain the possibility of surviving biological death and acknowledge that the soul, as a distinct faculty, is more predisposed to making moral decisions or contemplating existence after biological death. Importantly, the results from this research and related studies (Grey et al. 2011; Richert and Smith 2012) indicate that individuals who express a more "spiritual" understanding of the soul exhibit specific ethical positions regarding the use of embryos for stem cell research, the discontinuation of life support, and human cloning. Other research (Anglin 2014; Forstmann et al. 2012) confirms

that the distinctions individuals make between the soul and the body, and between the soul and the mind, or even between the mind and the body, are linked to our social and ethical stances regarding issues like abortion, euthanasia, and suicide (Gray et al. 2011).

Lastly, it is important to highlight how deeply ingrained and enduring the inclination is to incorporate the dimension of the soul alongside the mind in our cognition when contemplating others. In cultural terms, the three countries have been under the influence of Marxist ideology and the strong influence of communist parties for many decades. These parties have done much to turn that ideology into common sense in social life, especially in how people think about interactions between individuals (Marková et al. 1998; Varnum et al. 2008). Considering the significant differences in the dependence on Marxist ideology between the post-Soviet countries that were part of the Soviet Union (including Kazakhstan and Ukraine) and the countries in Central Europe (including Poland), it can be stated that the prevailing ideology for several decades reinforced thinking based on collectivism and dialectical materialism. This manifested as the secularization of social narratives, a materialistic view of humans, the suppression of religion and the entire spiritual sphere, or even anti-personalism. All of this was meant to lead to viewing the other person primarily as an individual of a purely material nature (Inglehart and Baker 2000; Louw 2007).

6.5.4. Limitations and Future Research

The limitations of this study point to several promising avenues for future research. First, empirical studies involving participants from a broader range of social groups beyond students and encompassing diverse age demographics could provide deeper insights into the dynamic relationship between beliefs about the soul, mind, and religiosity.

Second, while the present research incorporates a cross-cultural perspective, it is inherently shaped by specific cultural and religious contexts. Future studies could examine the cognitive mechanisms underlying beliefs about the mind and soul across a wider variety of sociocultural and religious environments, offering both validation and a richer understanding of our findings. Moreover, future research could

investigate how the findings extend to broader societal attitudes and policies, moving beyond ethical reasoning to explore areas such as health promotion and environmental stewardship.

It would also be valuable to relate the findings from the article about the soul to the research by Cruz and Mata (2026), who highlighted the importance of first-person subjective experience. They demonstrated that the more intensely a psychological phenomenon is experienced from the inside, the more likely people are to attribute that phenomenon to the soul/spirit rather than to the brain.

Finally, studies conducted within the framework proposed in this article could be compared with the research by Weisman et al. (2017, 2021), which conceptualizes components of mental life along three dimensions: the body, the heart, and the mind. Such comparisons would enable an in-depth exploration of how these dimensions intersect with the constructs of the soul, mind, and body, offering a valuable contribution to the field. Additionally, future research could focus on asking questions that capture the understanding of the soul as a principle of life. By connecting this concept to Greek tradition, researchers could compare different forms of life and personal capabilities, leading to a deeper understanding of the range and structure of dualistic beliefs and their historical contexts.

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