

Cultural and Moral Expressions in Language (CAMEL) Annotation Guide

Culture and Morality Lab

Department of Psychological and Brain Sciences

University of Massachusetts Amherst

What is this Annotation Guide?

The primary objective of this project is to accurately annotate a large-scale corpus of social media posts, focusing on various psychological dimensions. This undertaking is pivotal, as it lies at the intersection of psychology and computational social science, aiming to bridge the gap between human cognition, emotion, and language processing through advanced computational methods.

Expert annotation is a critical component in this process and the basis of research in our lab. It involves the systematic categorization and labeling of textual data based on predefined criteria, capturing the nuanced psychological states, sentiments, and cognitive processes reflected in social media discourse. The expertise of you (expert annotators) is invaluable, as they ensure the reliability, validity, and depth of the annotations, which automated systems alone cannot fully replicate. This analysis is foundational for developing more nuanced artificial intelligence systems capable of understanding and interacting with human emotions and thought processes on a more sophisticated level.

In psychology, expert annotation helps in the qualitative and quantitative analysis of psychological constructs within naturalistic data, offering insights into human behavior, social interactions, and mental health trends. In the fields of AI and computational linguistics, expert annotation databases aid in training and refining algorithms to better comprehend and process natural language, with a particular focus on cultural and moral psychological concepts.

To ensure the success of this task, here are some tips and guidelines for our RAs:

1. **Familiarize Yourself with the Psychological Dimensions:** Before beginning the annotation process, thoroughly understand the psychological dimensions you will be annotating for. They all appear in this manual. Consult your graduate mentor for more resources if need be.
2. **Consistency is Key:** Maintain consistency in your annotations. It is essential to apply the same criteria and judgment across all posts to ensure uniformity in the data. Regular discussions and calibration sessions with fellow CAM-L RAs can help achieve this consistency. You can ask your graduate mentor for more information if you have questions or if you feel you have not been consistent in your annotations.
3. **Context Matters:** Always consider the context of a piece of text. Psychological states and sentiments are often influenced by the context in which language is used. Pay attention to nuances, idiomatic expressions, and cultural references that might affect interpretation.
4. **Stay Objective:** While some degree of subjective judgment is inevitable, strive to remain as objective as possible. Base your annotations on observable evidence within the text rather than inferring too deeply into the author's intentions or state of mind. You will encounter posts that you dislike or disagree with. In these cases, you should maintain objectivity and focus on the task rather than respond to the content.

5. When necessary, seek clarification: Do not hesitate to inquire for clarification or discuss challenging cases with your graduate mentor. Collaborative discussion can provide new insights and perspectives, enhancing the quality of annotations.
6. Prioritize Your Well-being: Given the nature of social media, you may encounter distressing or sensitive content. It is important to take regular breaks and have support mechanisms. If you have any questions about these mechanisms, reach out to Dr. Atari.

By adhering to these guidelines and leveraging your background in psychology, you will contribute significantly to the advancement of our understanding of the interplay between language, psychology, and technology. This work not only enhances academic knowledge but also paves the way for more empathetic and effective computational systems in the future.

What Do We Mean by “Culture”?

Culture, in the context of our annotation work, is a multifaceted construct that encompasses the shared values, beliefs, practices, languages, symbols, and norms of a group of people. It is both a product and a process, continuously shaped by historical, social, and environmental factors, influencing and being influenced by the individuals within it. Culture manifests in explicit forms such as art, rituals, and ceremonies, as well as in implicit ways, including communication styles, attitudes toward authority, and underlying assumptions about the world. When annotating social media posts, it is crucial to recognize the cultural context in which these posts are created and consumed, as it significantly impacts the interpretation of language, sentiment, and psychological dimensions. The cultural lens through which individuals view the world informs their expression and interpretation of emotions, social relationships, and even humor, making it essential for RAs to consider cultural nuances and diversity in their work.

Individualism

Individualism is a widely used concept to explain cultural variation in personality, behavior, emotions, and subjective well-being. People high on individualism think of themselves first as individuals and then as group members. In individualist cultures, there is a greater focus on the self and people prioritize self-interest or their immediate family’s interest over the interest of the larger group they belong to. Individualism stresses independence and self-reliance, meaning people from individualist cultures rely on internal experiences when making judgments and decisions instead of relying on group norms and expectations. People in more individualistic cultures are more strongly influenced by internal standards and less likely to conform to group pressure. People high on individualism have a very strong sense of personal identity, as individualist cultures value uniqueness, original thought, freedom and independence.

Examples:

- “I am a unique individual”
- “The only person you can count on is yourself”
- “The most important thing in my life is to make myself happy”
- “Just wrapped up my solo backpacking trip across Asia! 🌍✨ Learned so much about myself and realized how much we can achieve when we step out of our comfort zone. Remember, it's your journey, your rules. #SoloTravel”
- “I've decided to take a different path from my family's expectations and pursue art as my career. It's not about rebellion; it's about honoring my true self and what makes me happy. 🎨💖 #FollowYourHeart”
- “Instead of big-budget films, he liked those smaller ones nobody else had heard of, finding magic in stories that felt real.”
- “He researched candidates extensively, making informed decisions based on their platforms rather than party loyalty, building a voting record that reflected his priorities.”
- “He sought out educators who encouraged creativity, critical thinking and valued innovation.”

Collectivism

Collectivism is a widely used and research concept to explain cultural variation in personality, behavior, emotions, and subjective well-being. Individuals in collectivist cultures define themselves in terms of roles and positions in social groups rather than on personality traits and abilities. People in collectivist cultures tend to conform to norms and roles imposed by their groups and pay more attention to the needs of others rather than to their own. They prioritize collective goals over personal goals. Collectivist societies stress “we” consciousness, collective identity, emotional dependence, group solidarity, and sharing duties and obligations. There are two types of collectivism: relational collectivism and group collectivism. People in East Asian collective cultures rely more on interpersonal networks and give more importance to relational harmony and the promotion of cohesion within groups compared to individualistic populations.

Examples:

- “If a member of my group gets a prize, I would feel proud”
- “Colleagues’ assistance is indispensable to good performance at work”
- “Family members should stick together no matter what sacrifices are involved”
- “Celebrated my grandmother's 80th birthday this weekend with all our extended family. It's moments like these that remind me how our bonds and shared traditions keep us strong. 🎉👵💖 #FamilyFirst”
- “Volunteered at the local food bank today and was so moved by the community coming together to support those in need.”
- “In a symphony, every instrument plays a vital role in conveying the message of the music.”

- “We should all pool our resources to ensure everyone's needs are met.”
- “Together, we can build a greener society for generations to come.”

Honor

In addition to individualism and collectivism, honor is another core theme in cultures to explain variations in personality, behavior, emotions, and subjective well being. Honor is defined as concern for one's reputation or how one is viewed by others (Cross et al., 2022). Cultures of honor emphasize the importance of maintaining and protecting one's or close others (i.e., family) honor by following specific norms (i.e., gender roles) and dealing with threats to one's or close others' (i.e., family) honor. In cultures of honor, there are strong norms of reciprocity, specifically individuals high in honor are more likely to reciprocate positive things (being polite to someone nice) and negative things (retaliating against insult; Cohen et al., 1997; Cross et al., 2022). Generally, individuals with high honor tend to perceive events as part of a larger social context of reputation, face, relative social status, and relationships. Thus, individuals high on honor are more likely to perceive insults towards them as damaging their social status and ruining their reputation (Cohen et al., 1997).

Examples:

- “I will protect my family against any dangers”
- “I have to get that person back for insulting me”
- “Proud to stand up for what's right at the town meeting tonight. In our community, we respect and protect the legacy of our forebears. No compromise when it comes to our values.”
- “Took part in the annual parade to honor our veterans today. Their sacrifice and courage remind us of the values we hold dear in our town. We will always defend and celebrate our heroes. 🇺🇸”
- “My father taught me the importance of keeping your word and defending your family's name. It's not just about personal pride; it's about living up to the expectations set by those who came before us. #Legacy”
- “In business dealings, fulfilling promises isn't just about integrity; it's about safeguarding the trust of our partners and clients.”
- “Addressing critics with grace isn't just a personal choice; it's a strategic move to protect our image and credibility.”

Tightness-Looseness

Tightness-looseness is a spectrum that refers to how strict norms are enforced and how deviant behavior is tolerated in societies. On one end of the spectrum, we have tight cultures where social norms are strongly enforced and deviant or rule-breaking behaviors are not

tolerated. For example, in tight nations, the government may restrict media (i.e., the internet), there is more surveillance of behaviors, and more severe punishments for crimes (i.e., the death penalty) (Gelfand et al., 2011). On the other end of the spectrum, loose cultures lack these features; they do not enforce strict social norms, and there is more tolerance for deviant behavior. The tightness or looseness of cultures trickles down and impacts daily behaviors across settings like the workplace and school. For example, in loose cultures, you are more likely to see protests compared to tight cultures (Gelfand et al., 2011).

Examples of tightness:

- “Awww.. just attended a beautiful traditional wedding in my hometown. Every detail followed our long-standing customs. It's amazing how these rituals connect us across generations. 🎊👰🤵”
- “Moved back to my small town after years in the city, and I'm reminded daily of the unwritten rules that govern our community life. There's comfort in the predictability and order. 🏡✨”
- “Participated in the annual cleanup drive today. It's not just about keeping our town clean; it's about respecting the rules and taking pride in our shared spaces. Everyone pitches in, no exceptions. 🌿👤 #CivicDuty”
- “It's frustrating how much red tape we have to go through just to get a simple permit approved.”
- “There's a new law in place, and suddenly, we're all being watched like hawks.”
- “They rejected my script because it was too controversial. Can't catch a break.”

Examples of looseness:

- “Just moved to this vibrant city and I'm loving the diversity and freedom here! You can be yourself, no judgments, and explore all sorts of lifestyles and ideas. 🌈🎉 #Diversity”
- “Attended a festival this weekend that celebrated cultures from all around the world. It's incredible how open and accepting everyone is, embracing all kinds of traditions and expressions”
- “love how in our neighborhood, you can see a street artist, a tech startup, and a community garden all in one block. There's room for everyone's passions and quirks here”
- “Politicians here seem to get away with a lot more compared to other places.”
- “Hey, did you hear about that spontaneous rally happening downtown?”
- “You see a mix of fancy restaurants and hole-in-the-wall places, and they all thrive.”

What Do We Mean by “Morality”?

Morality refers to the principles delineating the distinction between virtuous and malevolent conduct (good vs. bad). It encompasses a spectrum of standards, values, and beliefs used by

individuals and groups to guide their actions and judgments. Morality is deeply intertwined with cultural, religious, and philosophical ideologies, and it manifests through various practices, norms, and laws within societies.

At the heart of understanding morality is the concept of moral foundations, a theory developed to explain the psychological underpinnings of our moral reasoning and the diversity in moral beliefs across cultures. This theory identifies several foundational dimensions of morality, each addressing key aspects of human social interaction and organization.

Understanding these moral foundations allows us to appreciate the complexity of moral judgments and behaviors, recognizing that what constitutes moral action can vary widely among individuals and cultures. In the context of annotating social media content, recognizing these foundations enables researchers and annotators to identify and interpret the moral dimensions underlying people's expressions, debates, and conflicts online. This nuanced approach to morality facilitates a deeper analysis of social media discourse, revealing the underlying moral landscapes that shape public opinion and social interaction.

Care

Fundamentally, care is rooted in the protection of individuals from harmful treatment. It emphasizes a personal and/or collective responsibility to avoid emotional and physical damage to others. This moral foundation takes deliberate measures to nurture relationships, provide support, and engender a positive environment, all while discouraging behaviors or actions that could potentially cause harm to individuals or the community.

Examples:

- “Organized a community fundraiser for our local animal shelter this weekend. Nothing speaks more to the heart than coming together to care for our furry friends in need. 🐾❤️ #Compassion #CareForAll #AnimalLovers”
- “Spent the day volunteering at the senior center, and it was truly heartwarming to see the difference a little time and attention can make in someone's day. Let's not forget to care for those who once cared for us. 🧓🧓❤️ #Empathy #GiveBack”
- “Witnessed a random act of kindness today - someone stopped to help a stranger in distress. It's moments like these that restore my faith in humanity. Let's spread more care and compassion in our daily lives. 💖👐 #KindnessMatters”
- “How can we make sure everyone's voices are heard in this debate?”
- “Let's see if we can find you any resources available to help with that.”
- “Please remember that taking care of your health now can save you money in the long run.”

Equality

At its core, the concept of equality embodies equal treatment and outcomes for all individuals. It emphasizes the importance of fairness and prohibits any form of cheating or exploitation. This virtue focuses on societal well-being and can be found in several spaces within society (social, economic, political, etc.).

Examples:

- “Proud to have marched in today's rally for equal rights. It's crucial that we stand together, regardless of background, to fight for fairness and justice for all. 🌈✊ #EqualityForAll #Justice #StandTogether”
- “promoting equality benefits everyone by creating a more supportive and creative environment”
- “Celebrating International Women's Day by recognizing the incredible women in our community who break barriers every day. Let's commit to creating a world where everyone, regardless of gender, has equal opportunities.”
- “They're talking about representation quotas again. Can't decide if it's necessary or just tokenism.”
- “Music festival lineup just dropped, and it's a mix of genres and cultures. Feels like a melting pot of sounds.”
- “There's a debate raging about universal basic income. Can't decide if it's a step towards equality or dependency.”

Proportionality

Notably, proportionality (deriving from a focus on societal power) is conceptually distinct from equality. It ensures that each individual's rewards or punishments are proportional to their costs, contributions, effort, merit, or guilt.

Examples:

- “Just watched an inspiring documentary on criminal justice reform. It's high time we focus on rehabilitation and fair sentencing that truly reflects the nature of offenses. Justice should be about balance, not retribution. ⚖️🙌 #JusticeReform”
- “proportionate responses can transform conflicts into opportunities for growth. 🌱🤝 #RestorativeJustice”
- “We need to strive for a world where compensation is directly proportional to the effort and skill, not influenced by gender, race, or background.”
- “Artists who dedicate themselves to their craft and consistently produce high-quality work often garner more recognition and opportunities.”
- “Individuals who invest time and resources in education and skill development typically see higher earning potential and greater career opportunities.”
- “Voters who research candidates thoroughly and make informed decisions tend to see policies aligning more closely with their preferences.”

Loyalty

Loyalty revolves around preserving group cohesion. This is demonstrated through the cooperation or prioritization of one's ingroups, the prohibitive concerns about betraying or abandoning one's ingroups, and the competition against outgroups.

Examples:

- “So proud of our team's performance last night. Win or lose, we always stand by each other and push forward. That's what true loyalty is all about. 🏈❤️ #TeamSpirit”
- “Celebrating 10 years with my amazing work family today! It's the shared commitment to our mission that has brought us this far. Here's to many more years of making a difference together.”
- “In a world that's constantly changing, I'm grateful for friends who have been by my side through thick and thin.”
- “Can't make it to the protest tonight, but I'll retweet all your updates and spread the word online.”
- “I won't publicly criticize our government, but I'll quietly work to push our policies in the right direction.”
- “I appreciate all genres of music, but I'll always have a soft spot for the underground bands we grew up listening to”
- “I could get a higher-paying job elsewhere, but I'll stay with this company because I believe in their mission and values.”

Authority

Authority, manifested through established figures and institutions, is viewed as a means for providing stability and fending off chaos, as well as maintaining boundaries between the self and group. This moral foundation extends to submitting to traditions, which are also seen as a medium to preserve stability.

Examples:

- “Attended a beautiful military ceremony today honoring those who serve and protect our nation. It's a powerful reminder of the respect and gratitude we owe to those who uphold our laws and traditions. 🇺🇸🇺🇸 #RespectAuthority #MilitaryHonor #Tradition”
- “Reflecting on the wisdom passed down through generations in my family.”
- “Watching the changing of the guard ceremony really made me appreciate the discipline and order that comes with respecting authorities. It's about more than just rules; it's about the harmony and security it brings to society.”
- “Hey, remember we agreed to abide by the rules set by the committee?”
- “Maybe we should consult with our representatives before making any decisions.”
- “The director wants us to stick to the script, even if it feels outdated.”
- “The curator insists on showcasing this artist's work, despite controversy.”

- “The landlord insists on regular inspections to maintain the property.”
- “We should stick to the budget allocated by management to avoid overspending.”

Purity

Purity is about maintaining the sanctity of sacred entities, bodily and spiritual, and avoiding the contamination and degradation of said entities.

Examples:

- “Participated in a beautiful river cleaning project today. It's not just about the environment; it's about respecting the purity of nature and our duty to protect it for future generations. 🌿💧 #ProtectNature”
- “Attending the annual cultural festival, where we honor our heritage and the timeless values it teaches us. It's a reminder of the purity of our traditions and the importance of preserving them in a rapidly changing world. 🎭👏”
- “Completed a 30-day wellness challenge focused on purifying mind, body, and spirit. It's amazing how practices like meditation, clean eating, and yoga can elevate our sense of purity and well-being. 🧘🍏✨ #WellnessJourney”
- “Let's make sure our campaign remains unsullied by scandal.”
- “Keeping the essence of my art untouched by mainstream trends.”
- “Just ensuring our policies stay clean and untainted, you know?”

Ownership

Ownership refers to the acknowledgment or discussion of rights and responsibilities related to possessing or controlling something, including intellectual and physical property.

Examples:

- “Downloading music without paying is stealing from the artist.”
- “Just bought my first home! 🏠 It's a dream come true and a testament to hard work”
- “Participated in a local workshop on intellectual property rights. It's crucial for creators to understand and protect their work in the digital age. Your ideas are your property, and they deserve respect. 📚💡 #CreativeRights”
- “Guess who's got the keys to the kingdom now?”
- “Taking the reins on this project, let's see where it leads.”
- “Sculpting my vision into reality, one piece at a time.”
- “Negotiating deals that secure my place at the table.”
- “Entrepreneurship is all about owning your destiny.”

Liberty

Liberty involves the discussion of freedom, autonomy, and the right to choose without coercion or constraint.

Examples:

- “Marched in the rally for individual rights today. It's empowering to stand alongside so many who believe in the freedom to live our lives as we choose, free from oppression. 🇺🇸👊 #Freedom”
- “Celebrating the repeal of an outdated law that restricted personal freedoms. Progress happens when we fight for the liberty to make our own choices about our lives. Forward is the only way! 🚀🎉 #Change #Autonomy”
- “Just finished a book on the history of civil liberties. It's a stark reminder of the struggles many endured for the freedoms we often take for granted today.”
- “Voting for change, not because I have to, but because I want to.”
- “Painting without a preconceived notion, just letting the brush dance.”
- “Having the means to pursue my dreams without financial shackles.”
- “Earning money doing what I love, not just to survive, but to thrive.”

Honesty

Honesty is related to the expression of truthfulness, sincerity, or the absence of deceit.

Examples:

- “Politicians should stop lying and start being transparent.”
- “Honesty really is the foundation of trust and meaningful connections. 🌟💡”
- “Celebrated a milestone at work today, achieved through transparent and honest dealings with our clients and partners. It's proof that success built on integrity is the most rewarding. 🏆👛 #HonestyInBusiness #EthicalSuccess #IntegrityFirst”
- “I see where you're coming from, but I have some reservations.”

Thin Morality

Evaluative terms in spoken language can be divided into “thin” and “thick”. We don’t evaluate actions and persons only as “good” or “bad”, or “right” or “wrong”, but also as caring, courageous, fair, selfish, obedient, and cruel. The former are examples of thin moral concepts, while the latter terms are examples of thick moral concepts, the general class of which includes virtue and vice concepts explained above. Moral foundation-relevant concepts (i.e., care, equality, proportionality, loyalty, authority, purity, ownership, honesty) stand in contrast to those we typically express in spoken language when we use thin terms such as right, bad, permissible, and ought. When an individual uses such language without clearly talking about moral values, they are using thin moral terms.

Examples:

- “John is a good man.”

- “You were right. I should have resigned earlier.”
- “What he did was absolutely wrong. Unacceptable!”
- “My friend’s situation is only getting worse and worse.”
- “Mother Teresa’s goodness won her a Nobel Prize.”
- “I can’t believe they’re pushing for this policy, it’s just not right.”
- “This piece of literature feels like it’s missing something, it’s just bad.”
- “It’s bad how little they pay their workers.”

Offensive/Uncivil Language

Offensive language refers to language that may be considered disrespectful or rude. It may include profanity, slurs, or derogatory terms. Any use of profanity, slurs, or derogatory language aimed at belittling or demeaning a person or group should be annotated as offensive. Offensive comments violate norms of politeness and target disadvantaged social groups in a potentially harmful manner. They are seen as a broad category that can encompass more specific types of problematic language like insults, threats, profanity, cyberbullying, hate speech, etc. Uncivil language is characterized by lacking courtesy or politeness, often displaying a disregard for societal norms of respectful communication. A hostile or overly aggressive tone, even without explicit, offensive content, should be marked as uncivil. Incivility refers to rude, impolite, or unsociable speech or behavior that disrupts the social norms of respectful discourse. They are described as being “unnecessarily disrespectful” toward discussion participants or topics. Always consider the context. The language that might be offensive in one context might be acceptable in another (e.g., friendly banter). Be cautious with sarcasm and irony. If the underlying intent is harmful, it should be annotated accordingly. It is important to realize that different cultures have their own unique ways of communicating and using language.

Examples:

- “You’re such an idiot, how can anyone be as dumb as you?” (Offensive)
- “You are a piece of shit” (Offensive)
- “You f*cked up” (offensive)
- “I don’t care what you think, your opinion is worthless.” (uncivil)
- “Absolutely fed up with people who can’t drive! If you don’t know how to signal, you shouldn’t be on the road. Some of you are unbelievably clueless.” (uncivil)
- “Oh, another ‘expert’ on the internet sharing their groundbreaking opinion. Why don’t you enlighten us more with your vast ignorance?” (uncivil)

Hate

In the study by Kennedy et al. (2022), hate speech is defined as language intending, through rhetorical devices and contextual references, to attack the dignity of a group. This attack may manifest through incitement to violence, encouragement of such incitement, or incitement to

hatred. The determination of hate-based rhetoric hinges on its level of dehumanization, as it attacks human dignity, derogates, incites violence, or supports ideologies like white supremacy. A critical aspect of this definition is that hate-based rhetoric explicitly targets a social group (or an individual based on their social group). There are two overarching categories of such speech: 1) "assaults on human dignity" (HD) broadly encompass assertions or implications of a group's inferiority based on intelligence, genetics, or other human capacities. This includes degrading or dehumanizing a group by comparing them to subhuman entities or using harmful slurs with the intent to cause harm. Moreover, it involves the incitement of hatred through harmful group stereotypes, historical or political references, or the endorsement of known hate groups or ideologies. 2) "Calls for violence" (CV) involve explicit calls for or endorsements of violence based on these descriptions or justifications. Language classified with CV is deemed a specific incitement to violence, either directly or indirectly advocating violence against a group or an individual due to their group membership.

Examples:

- "Can't believe what I'm seeing at the supermarket today. [racial slur] thinking they own the place."
- "All [social group members] should be killed"
- "The new policy at my kid's school is ridiculous! Since when did [homophobic slur] start dictating what's normal? #NotInMyBackyard"

Fear

Fear speech is an expression aimed at instilling (existential) fear of a target social group on the basis of characteristics like race-ethnicity, religious affiliation, sexual orientation, disability, or gender identity. A post is fear speech if it creates fear about a target group using one of the following notions:

- Something done by the group in the past (and the possibility of that happening again) - historical domination.
- Some tradition of the target group which is shown to take precedence over in-groups - cultural domination.
- The target group taking over jobs or education institutes - economic domination.
- The target group taking over land/ living places - geographic domination.
- The target group killing people of the in-group - existential domination.
- Speculation that the target group would take over and dominate in the future over the ingroup - future domination.

Examples (adapted from Saha et al., 2023):

- "Toledo Tree-Dweller Guns Down White Man After an Argument at a Bar. Blacks routinely use homicide as their go-to for conflict resolution."
- "I call BS! NO muslim woman would ever accept gays, any other form of religion, free speech (she has no clue what it is after all) or ever adapt yo the way of life of the country her family invaded!"

- “This family lost a mother. She was killed by a Sudanese migrant in church yesterday in Antioch, Tennessee. Media silence is deafening. #MelanieSmith”
- “Jewish poison pouring out of our media and Hollywood is destroying Christianity”
- “I’m starting to worry about the growing wealth gap and what it means for our society.”
- “It’s concerning how access to quality education still seems to be determined by factors like income and zip code.”

Threat

Threat is defined as a pending danger that can cause harm (Vocabulary.com, 2024). An example of some words that are associated with threats are “crisis,” “frightening,” and “violent” (Choi et al., 2022). An extensive dictionary or a list of words associated with threat can be found in the Supporting Information, Table S2 (Choi et al., 2022). There are also 3 major socio-ecological threats: wars and conflicts, natural disasters, and pathogens. Choi et al. (2022) found that during times when 1 of the 3 major socio-ecological threats was present, there was an increase in the usage of words associated with threats in newspapers and/or social media.

Examples:

- “Someone should teach that loudmouth a lesson they won’t forget. People like that only understand one language.”
- “Urgent: Wildfire spotted near the edge of town. Evacuation orders in place for zones 4 and 5. Stay safe, pack essentials, and follow official channels for updates. 🚒🔥 #WildfireSafety #EvacuateNow”
- “Felt a strong tremor early this morning. Preliminary reports suggest a 6.2 magnitude quake. Check on your neighbors and stay away from damaged structures. Aftershocks expected. 🌍💔 #EarthquakePreparedness #StaySafe”
- “COVID cases are on the rise again in our area. Please don’t let your guard down – wear masks, maintain social distancing, and get vaccinated if you haven’t already. Let’s keep our community safe. 🧑‍🤔🦠”
- “Got my COVID vaccine today! It’s our best shot at getting back to normal. If you’re eligible, I encourage you to do the same. Protect yourself and others. 💉❤️”
- “With the new variant spreading, it’s crucial to follow the updated COVID guidelines. Wash your hands, avoid large gatherings, and wear a mask in public spaces. We’ve come too far to ease up now. 🚫👤 #COVIDGuidelines”
- “Things are getting tense between those two parties, feels like a storm is coming.”
- “Have you noticed the way people are hoarding supplies? It’s like they’re preparing for something.”

Creativity/Innovation

Creativity is the ability to create original work, theories, techniques, or thoughts. Creative individuals typically are original, imaginative, and expressive (American Psychological Association, 2024). Ahmed and Feist (2021) defined the different levels of creativity as Big-C, Pro-C, and Small-C. Big-C refers to creativity that has an international impact and/or started new fields or technologies like winning a Nobel Prize. Pro-C refers to creativity where impact reaches regional or national levels. Small-C refers to personal creativity (like taking an art class) and/or creativity that has everyday, local/regional impact. Ahmed and Feist (2021) found that language related to personality was an effective way to differentiate between creative and less creative people. Specifically, individuals who were more creative (Big-C and Pro-C) were more likely to use words associated with more openness to new experiences compared to less creative individuals (Small-C).

- Words associated with openness to experience include past tense (“walked”, “were”, and “had”), positive emotions (“happy”, “pretty”, and “good”), social processes (“talk”, “us”, and “friend”), conjunction (“with”, “and”, and “include”), seeing (“view”, “saw”, and “look”), leisure (“house”, “TV”, and “music”), preposition (“with” and “above”), and swear words
- Generally, increased openness to new experiences has been strongly associated with increased creativity

Examples:

- “just finished my latest piece, 'Urban Dreamscape'. It's a blend of digital art and traditional painting techniques. Can't wait to hear what you all think! 🎨✨”
- “Dropped a new poem on my blog today about finding hope in the smallest things. It's called 'Light in the Cracks'. Would love for you to read and share your thoughts! 📖🌟 #PoetryCommunity”
- “Blown away by the latest advancements in renewable energy tech! ☀️💡 It's innovations like these that bring us closer to a sustainable future. Let's support and champion these groundbreaking efforts! #SustainableTech”
- “Just tried out this new app, which helps you track your carbon footprint and suggests ways to reduce it. It's amazing how technology can empower us to make more eco-friendly choices. Kudos to the developers for their innovative approach! 📱🌱”
- “Transformed my old bike into a mobile garden, complete with planters where the baskets used to be. Who says you can't cycle and bring a bit of greenery with you?”
- “Posted a snippet of my latest short story on my blog today. It's about a world where dreams can be recorded and replayed. The possibilities are endless, and I'm just scratching the surface. Dive in and let's dream big together!”

Kinship

In our exploration of social media content, we introduce the concept of “kinship” as an important construct that influences online interactions and expressions. Kinship, as defined by recent studies such as Schulz et al. (2019), encompasses the web of social relationships that bind individuals to their families and communities. We focus on the essential elements of kinship that are most relevant to understanding social media posts:

1. Family Bonds and Marriages

Kinship can be reflected in the preference for marriages within certain familial or community boundaries, strengthening ties and fostering a dense network of relationships. In social media, this might appear as references to family traditions, celebrations, or discussions about marital practices that emphasize connections within the extended family or community.

2. Household Structures

The composition of households, including extended families living together or in close proximity, is a key indicator of kinship intensity. On social media, posts may highlight multi-generational living arrangements, shared family spaces, or collective family activities, underscoring the importance of co-residence in maintaining kinship ties.

3. Lineage and Ancestry

The way individuals trace their lineage, whether through maternal or paternal lines, shapes their sense of belonging and identity within a kinship network. Social media content might feature stories, genealogical explorations, or cultural practices that honor ancestral lines and heritage.

4. Community Cohesion

Kinship extends beyond immediate family to encompass the broader community, often characterized by close-knit relationships and communal living arrangements. Look for posts that discuss community events, local traditions, or the practice of marrying within one's community, all of which reflect the broader scope of kinship.

In annotating social media content for kinship, research assistants should pay attention to mentions of family and community relationships, practices, and structures. This includes noting expressions of familial loyalty, discussions about family roles and responsibilities, and references to community belonging.

Examples:

- “Finally reunited with the entire clan after years apart! There's nothing like the bond of family to remind you of where you come from and who you are. Here's to more laughter, stories, and memories. 🗣️👥 #FamilyFirst”
- “Spent the day exploring my grandparents' hometown, tracing the roots of our family tree. Every street and story added a new layer to my understanding of our shared heritage. Honored to carry forward their legacy. 🌳🏠 #AncestralPride”

- “Today, I married my best friend. 💍✨ Surrounded by loved ones, we vowed to walk this life hand in hand, through challenges and triumphs. Here's to our new beginning and a lifetime of love and adventure!”
- “One year down, forever to go! This year has been a beautiful journey of growth, love, and laughter. Grateful for every moment and excited for all the adventures that lie ahead. Happy anniversary, my love! 🎉💕”
- “Watched an eye-opening documentary last night about family structures across the globe, featuring a segment on polygynous communities. It provided a respectful and nuanced view of the complexities and dynamics involved. Highly recommend for those interested in understanding cultural practices from multiple perspectives. 🎥✨”
- “Gathered with all my cousins this weekend for our annual family reunion. It's amazing how we pick up right where we left off, no matter how much time passes. Grateful for this big, loving, and slightly loud family of mine.”
- “Throwback to summer vacations spent running wild with my cousins at our grandparents' house. Those were the days of endless adventures and shared secrets. Can't wait to continue the tradition with the next generation! 🌳👨👩👧👦
#ChildhoodMemories”

Religion

Pargament (1992) defined religion as "a search for significance in ways related to the sacred" (p. 204); APA defines religion as a system of spiritual beliefs, practices, or both, typically organized around the worship of an all-powerful deity (or deities) and involving behaviors such as prayer, meditation, and participation in collective rituals. It is essential to highlight that neither religion nor spirituality is a singular entity with an essence that defines what it "truly" is. Various phenomena termed religions have core elements, some of which are shared across different religions, but there is no single feature that universally defines them all (Pargament, Mahoney, & Shafranske, 2013; Taves, 2013, 2015). They are often defined more by their culture than by their contents (Saroglou & Cohen, 2011). Regarding behaviors of religious individuals, Yaden et al. (2017) found that religious individuals tend to exhibit more positive emotions and social themes, whereas nonreligious individuals lean towards more negative emotions and cognitive themes. The origin of the heightened positive emotion expressed by religious individuals remains unclear, with some research suggesting it may stem from increased levels of social support within religious communities.

Examples:

- “Feeling blessed to celebrate [Religious Holiday] with family and friends. It's a time for reflection, gratitude, and renewing our faith”
- “Attended a beautiful service at [Place of Worship] this morning. There's something incredibly uplifting about coming together in prayer and song. Carrying this serenity with me through the week. 🙏🎵 #SpiritualJourney”

- “Feeling incredibly moved after today's sermon on the power of forgiveness. It's a core part of my faith to seek and offer forgiveness, and it's moments like these that really reinforce why.”
- “Had an enriching conversation with friends from different faith backgrounds about the concept of compassion in our respective religions. It's beautiful to see the shared values across our beliefs.”
- “Feeling blessed by the countless ways God guides and provides for me.”

Intellectual Humility

Consistent with the reviewed literature, our conceptual definition of intellectual humility is defined as “recognizing that a particular personal belief may be fallible, accompanied by an appropriate attentiveness to limitations in the evidentiary basis of that belief and to one’s own limitations in obtaining and evaluating relevant information” (Leary, 2016). We embrace a multi-faceted conceptualization of intellectual humility, consistent with Krumrei-Mancuso and Rouse (2016). In our working typology for the detection of intellectual humility in text, we differentiate five types of intellectually humble utterance: (1) acknowledging the limits of one’s own knowledge, (2) recognizing the fallibilities in one’s own thinking, (3) welcoming criticism non-defensively, (4) willingness to revise beliefs in light of new information, and (5) acknowledging the nuance and complexity of the issue. In this annotation tool, we explain these dimensions below:

- **Limits of One’s Beliefs:** This facet of intellectual humility refers to a mindset where people acknowledge the limits of their own knowledge.
- **Fallibility of One’s Thinking:** This facet of intellectual humility refers to a mindset where people recognize the potential fallibility in their own thinking.
- **Welcoming New/Different Ideas:** This facet of intellectual humility refers to a mindset where people non-defensively welcome criticism and/or new ideas from uncongenial sources.
- **Revision of Existing Beliefs:** This facet of intellectual humility refers to a mindset where people are willing to revise their beliefs in light of new information.
- **Nuance of Argument:** This facet of intellectual humility refers to a mindset where people acknowledge the nuance, complexity, and multi-faceted nature of the issue discussed.

Examples:

- “The Left labels everything it disagrees with either full-on racism or a racist “dogwhistle.” This is how the Left has weaponized the concept of “hate speech” to silence opposition.”
- “The fact that someone has an opinion doesn’t connote that that’s how it should be; appreciation of diversity and different viewpoints is far much critical.”
- “Although I spent a lot of time on these results, I’m not really sure whether they make sense or not. I don’t know.”

- “What I really want to do is start having fruitful conversations on campus to explore the truth.”
- “Had a great discussion today that challenged some of my long-held beliefs. It's moments like these that remind me of the importance of keeping an open mind. We never stop learning. 🤔📖”
- “After reading more about [Topic], I've come to see things differently than I did before. It's okay to change your mind when presented with new evidence. Growth is all about adapting.”
- “I love hearing different perspectives, even (or especially) when they challenge my own. It's how we grow and refine our understanding of the world. What's a belief you've reconsidered recently? 🌍🔄”
- “I used to think success was purely individual effort, but privilege plays a role too.”
- “I didn't realize the complexities of poverty until I volunteered at the shelter.”
- “I don't have time for opposing viewpoints, they're just distractions.”
- “If you don't appreciate this music, you have no taste.”
- “People in poverty just need to work harder, it's their own fault.”

Analytical Thinking

Nisbett et al. (2001) defined analytic thinking as the process of isolating an object from its surroundings, focusing on its attributes for categorization, and preferring the application of rules related to these categories to explain and predict the object's actions. Inferences involve decontextualizing structure from content, utilizing formal logic, and avoiding contradictions. A few essential features of analytical thinking are as follows:

1. **Discreteness:** Analytical thinkers concentrate on categories and rules to comprehend an object's behavior independently of its context. They do not perceive it as a collection of overlapping and interpenetrating substances.
2. **Object Focus:** Analytical individuals are inclined to primarily focus on the central object and its attributes (Hansen, 1983, p. 31). This inclination may contribute to a lack of understanding of the fundamental nature of causality in the physical domain.
3. **Categories and Rules:** Analytical individuals are more inclined to concentrate on categories and rules to understand an object's behavior independently of its context. They did not perceive the whole as existing; instead, they viewed the parts relationally.
4. **Abstract Analysis:** Analytical individuals favor the epistemology of logic and abstract principles. They consider concrete perception and direct experiential knowledge unreliable or incomplete, sometimes even misleading. Consequently, they were prepared to reject sensory evidence conflicting with reason.

Examples:

- “Spent the afternoon breaking down a complex coding challenge into discrete components. It's fascinating how categorizing issues can lead to clearer, more manageable solutions. 🧩💻”
- “Analyzing a piece of classic literature by focusing on the central themes and characters' motivations. It's interesting how deep you can go when you concentrate on the core elements.”
- “Had a great debate on the importance of understanding the rules that govern natural phenomena. It's not just about the individual parts but how they relate to each other within these frameworks. 🌌”
- “Contemplating how often our perceptions deceive us and the importance of logical reasoning in getting closer to the truth. Sometimes, what we see isn't all there is. 🤔💭”
- “Rather than engaging in heated debates, I think it's more constructive to evaluate the effectiveness of different government programs objectively.”
- “I'm drawn to literature that employs intricate symbolism and allegory to convey deeper philosophical themes.”
- “I enjoy films that require viewers to piece together the narrative through subtle cues and non-linear storytelling.”

Generalized Trust

Generalized trust examines the trust people generally have in other individuals and institutions. A high sense of generalized trust, for instance, permits individuals to view others and institutions positively in terms of honesty and reliability. Trust is necessary to maintain close relationships across many different cultures. Factors contributing to varying levels of generalized trust include cultural upbringings and social interaction experiences. Varying across cultures, it may be normalized to either be more or less trusting of people whom you may not have a close relationship with.

Examples:

- “In a world full of uncertainty, I choose to believe in the goodness of people. It's our collective trust that builds stronger communities and bridges divides. Here's to more understanding and faith in one another.”
- “Had a stranger return my lost wallet today, intact with everything inside. Moments like these restore my faith in people”
- “By believing in each other's intentions, we pave the way for deeper connections and a more cohesive society. It starts with us. 🤝✨”
- “I'm not sure if their promises are genuine or just for show.”
- “I'm not sure if this charity organization is really using donations effectively.”

- “I’ll believe it when I see actual change happening.”

References

- Ahmed, S. T., & Feist, G. J. (2021). The Language of Creativity: Validating Linguistic Analysis to Assess Creative Scientists and Artists. *Frontiers in Psychology, 12*, 724083.
- Atari, M., Haidt, J., Graham, J., Koleva, S., Stevens, S. T., & Dehghani, M. (2023). Morality beyond the WEIRD: How the nomological network of morality varies across cultures. *Journal of Personality and Social Psychology, 125*(5), 1157–1188.
- Choi, V., Shrestha, S., Pan, X., Gelfand, J. (2022). When Danger Strikes: A Linguistic Tool for Tracking America’s Collective Response to Threats. *Proceedings of the National Academy of Sciences, 119* (4), e2113891119.
- Cohen, D., & Nisbett, R. E. (1997). Field experiments examining the culture of honor: The role of institutions in perpetuating norms about violence. *Personality and Social Psychology Bulletin, 23*(11), 1188-1199.
- Cross, S. E., & Üskül, A. K. (2022). The pursuit of honor: Novel contexts, varied approaches, and new developments. In M. J. Gelfand, C.-y. Chiu, & Y.-y. Hong (Eds.), *Handbook of advances in culture and psychology* (pp. 189–243). Oxford University Press.
- Gelfand, M. J., Nishii, L. H., & Raver, J. L. (2006). On the nature and importance of cultural tightness-looseness. *Journal of Applied Psychology, 91*(6), 1225.
- Hoover, J., Portillo-Wightman, G., Yeh, L., Havaladar, S., Davani, A. M., Lin, Y., Kennedy, B., Atari, M., Kamel, Z., Mendlen, M., Moreno, G., Park, C., Chang, T. E., Chin, J., Leong, C., Leung, J. Y., Mirinjian, A., & Dehghani, M. (2020). Moral Foundations Twitter Corpus: A Collection of 35k Tweets Annotated for Moral Sentiment. *Social Psychological and Personality Science, 11*(8), 1057-1071.

- Kennedy, B., Atari, M., Davani, A. M., Yeh, L., Omrani, A., Kim, Y., ... & Dehghani, M. (2022). Introducing the Gab Hate Corpus: defining and applying hate-based rhetoric to social media posts at scale. *Language Resources and Evaluation*, 1-30.
- Nisbett, R. E., Peng, K., Choi, I., & Norenzayan, A. (2001). Culture and systems of thought: Holistic versus analytic cognition. *Psychological Review*, 108(2), 291–310.
- Pachinger, P., Hanbury, A., Neidhardt, J., and Planitzer, A. (2023). Toward Disambiguating the Definitions of Abusive, Offensive, Toxic, and Uncivil Comments. *Proceedings of the First Workshop on Cross-Cultural Considerations in NLP (C3NLP)*, 107–113, Dubrovnik, Croatia. Association for Computational Linguistics.
- Saha, P., Garimella, K., Kalyan, N. K., Pandey, S. K., Meher, P. M., Mathew, B., & Mukherjee, A. (2023). On the rise of fear speech in online social media. *Proceedings of the National Academy of Sciences*, 120(11), e2212270120.
- Schulz, J. F., Bahrami-Rad, D., Beauchamp, J. P., & Henrich, J. (2019). The Church, intensive kinship, and global psychological variation. *Science*, 366(6466), eaau5141.
- Yaden, D. B., Eichstaedt, J. C., Kern, M. L., Smith, L. K., Buffone, A., Stillwell, D. J., Kosinski, M., Ungar, L. H., Seligman, M. E. P., & Schwartz, H. A. (2018). The Language of Religious Affiliation: Social, Emotional, and Cognitive Differences. *Social Psychological and Personality Science*, 9(4), 444-452.