



#sendeanlat (#tellyourstory): Text Analyses of Tweets About Sexual Assault Experiences

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Abstract

On 11 February 2015, a 20-year-old university student, Ozgecan Aslan, was violently murdered in an attempted rape in Mersin, southern Turkey. This event led to a mass Twitter protest in the country. Women across the country started sharing the hashtag #sendeanlat (“#tellyourstory” in English). In the current exploratory study, 164,279 original tweets were analyzed using the text analytic approach called the Meaning Extraction Method. Results revealed the key themes of *reactions to victim blaming*, *honor culture/namus*, *assault experiences*, *social media*, and *women’s responsibility*. Policy, media, and mental-health-related implications and future research directions are discussed.

Keywords Language analysis · Twitter · Social media · Turkey · Rape · Assault

On 11 February 2015, a 20-year-old university student, Ozgecan Aslan, was violently murdered in an attempted rape in Mersin, southern Turkey. As she was attempting to travel home, the bus driver veered into the woods and attempted to rape her. When she resisted, the driver stabbed and beat her to death with an iron bar, cut her hands and, with the help of his father and friend, tried to burn her body to hide the DNA evidence. Her burnt body was found on 13 February 2015 (Asquith, 2015; Davidson, 2015; Uras, 2015). The current body of psychological research provides us with a limited understanding of how such an assault case is perceived in an honor culture like Turkey. Therefore, our goal in the current study is to understand the perception of rape and sexual assault in an honor culture.

Along with street protests across the country, the attempted rape and brutal murder of Ozgecan Aslan led to a mass Twitter protest in Turkey. A law professor from Istanbul Bilgi University, İdil Elveriş, tweeted the following on 15 February 2015:

Can you use the sentence beginning “because I am a woman” and the hashtag #sendeanlat to write examples of things you experienced only because you were woman?

She stated in a later interview that the purpose of her tweet was to invite women to talk about their experiences with the end goal of raising awareness (Sozeri, 2015).

After this tweet, women across the country used the hashtag #sendeanlat to talk about their experiences, which was translated by the English-speaking media as “#tellyourstory” (Davidson, 2015). In reaction to high rates of sexual assault, women started sharing their experiences of assault, harassment, and rape, as well as their methods of protection, such as carrying pepper spray and pocket knives, as a routine part of everyday life under this hashtag (Davidson, 2015), along with their experiences of daily gender discrimination. Although the hashtag is still used for other contexts, most tweets originated on the first day, and the number of #sendeanlat-tagged tweets posted each day decreased significantly after a week (see Fig. 1).

The current study focuses on the themes associated with the hashtag #sendeanlat (#tellyourstory). The tweets may include both assault and harassment experiences of Turkish women. Yet, since this social media movement started after a violent sexual assault, we believe that it is important to make the distinction between sexual assault and harassment. According to Oxford Dictionaries, sexual assault refers to “the action or an act of forcing an unconsenting person to engage in sexual activity” whereas sexual harassment refers to “Behaviour

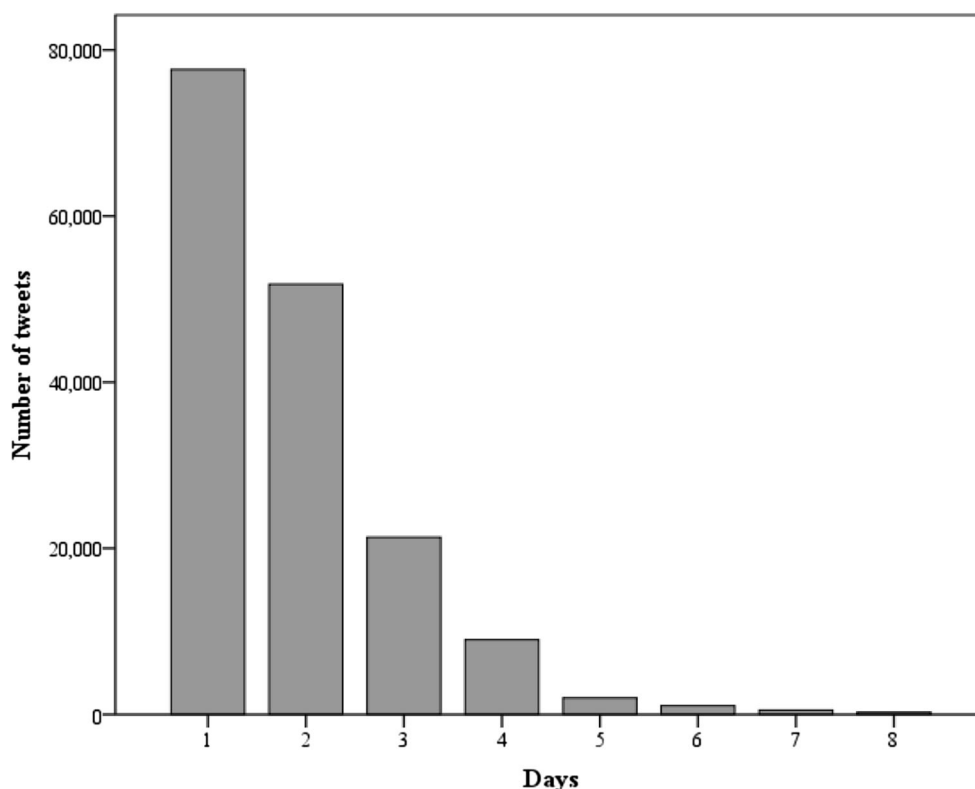
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Fig. 1 Number of tweets per each day between day 1 (15 February 2015) and day 8 (22 February 2015)



characterized by the making of unwelcome and inappropriate sexual remarks or physical advances in a workplace or other professional or social situation.” In other words, Ozgecan Aslan’s experience is an example of sexual assault. Similarly, the following call for tweets refers to women’s sexual assault experiences. In light of previous work, we can expect themes related to the role of social media in information sharing during social movements (Gleason, 2013; McGarty, Thomas, Lala, Smith, and Bliuc, 2014), honor culture (Sev’er & Yurdakul, 2001; Uskul et al., 2014; Uskul et al., 2015), victim blaming (Lonsway, Cortina, and Magley, 2008; Payne, Lonsway, and Fitzgerald, 1999), and empathy for the victim (Osman, 2014) or the perpetrator (Heater, Walsh, & Sande, 2002). Below we provide our expectations based on previous literature. The research question we are asking in the current study is:

Research Question: Within an honor culture, what types of themes will develop across Tweets in reaction to a publicized sexual assault case?

Honor Cultures and the Turkish Culture

Previous work on honor cultures is informative for the current study. In honor cultures, individuals view honor as related to one’s social image, standing, reputation, and others’ evaluation of the individual. Contrastingly, in non-honor cultures,

individuals view honor as a private matter (Uskul et al., 2015). Uskul et al. (2015) further described that in cultures of honor, prestige and respect are hard to gain, yet easy to lose. Honor is conceptualized as a shared resource—a dishonorable act committed by a close other may impact one’s own honor. For example, individuals from Brazil (an honor culture) reported that female infidelity damages a man’s reputation at a higher rate than individuals from the USA did (Vandello and Cohen, 2003).

Honor cultures are highly characterized by geographical location. For example, southern US states are generally characterized as possessing honor cultures, whereas northern US states typically do not (Vandello, Cohen, and Ransom, 2008). Mediterranean, Middle Eastern, and Latin American cultures are examples of honor cultures (Uskul et al., 2015). Turkey, being both a Mediterranean and Middle Eastern country, is characterized as a culture of honor (Sev’er & Yurdakul, 2001; Uskul et al., 2015).

Honor Cultures and Male Aggression

Culture of honor is impactful in how men behave, especially in relation to aggression. First, men in honor cultures show aggression towards other men in the face of insults. For example, previous work showed that Turkish individuals have strong negative emotions (Uskul et al., 2014) and aggression (Uskul et al., 2015) when faced with threats of honor compared with North American individuals (non-honor culture).

Second, men in honor cultures are inclined to show aggression towards women relative to those living in non-honor

cultures. For example, Brown, Baughman, and Carvallo (2017) showed that in honor culture states in the USA, there have been higher rates of rape and domestic homicide rates by White male perpetrators compared with non-honor culture states in the USA. Furthermore, White female teenagers in honor culture states of the USA anonymously reported higher rates of rape and violence in relationships than White female teenagers in non-honor cultures of the USA. Similarly, individuals from Brazil, an honor culture, reported that as female fidelity damages a man's reputation, this reputation may partially be restored through violence. Moreover, individuals from Brazil reported that women are expected to remain loyal in the face of jealousy-related violence at a higher rate than individuals from the USA did (Vandellos and Cohen, 2003).

Namus

Such examples of aggression towards women in the name of honor are observed in Turkey. In Turkish, there is a specific word, *namus*, that refers to the type of honor that is linked to a woman's physical and moral qualities, especially those inferred from her sexual activity (Sev'er & Yurdakul, 2001). *Namus* refers to the qualities that a woman must protect before, during, and after marriage. *Namus* is seen as hereditary, and a woman's *namus* can even reflect on her ex-husband or her children. *Namus* is seen as a quality that must be protected by a woman as well as men related to her, so that a woman's deviant behaviors (such as premarital sex, regardless of the presence of consent) do not cast a shadow on the men around her. Within the cultural script of *namus*, when a woman is perceived as "dishonorable," she may be punished by male members of her family. This punishment can range from verbal violence to homicide (known as honor killings; Ugurlu and Aktas, 2013). In light of these characteristics of the Turkish culture, we may observe a theme related to the culture of honor or *namus*.

Culture of Honor and Sexual Assault

Although there is a scarcity of academic work on the link between cultures of honor and rape/sexual assault, research on media portrayals of such events within honor cultures is quite robust. Links between the occurrences of rape/sexual assault, blaming of the victims after rape/sexual assault, and women's silence after such incidents have been suggested by the media (Fontanella-Khan, 2014; McGowan, 2013). For example, Fontanella-Khan (2014) explained that in India, another honor culture, the rape of a woman is perceived as stealing the honor of the men in the victim's family, which is reflected in the cultural punishment system in areas where law is not effective. In 2014, a village head ordered the rape of a 14-year-old girl in the North Indian state of Jharkhand to punish her brother, who had sexually assaulted a female villager (Fontanella-Khan, 2014). These examples further illustrate

the perception of honor as a shared commodity. We expect to see a similar perspective in the #tellyourstory tweets.

Victim Blaming

Based on the Just World Theory (Lerner, 1980), in the current study, we expect to observe a theme of victim blaming. According to this theory, individuals have a need to believe that the world is a just place in which individuals get what they deserve. Therefore, victims can be blamed for their misfortunes (Hafer, 2000; Lerner, 1980), as they must have done something to deserve or cause the misfortune (Strömwall, Alfredsson, and Landström, 2013). In other words, individuals will blame the victim after rape or assault to reinforce their belief in a just world that assures them that a similar incident would not happen to good people like themselves (Strömwall et al., 2013). Previous work has found a link between just world beliefs and attitudes towards rape victims (Hafer, 2000; Strömwall et al., 2013).

Previous work on rape and sexual harassment myths also point to the theme of victim blaming after such phenomena. Payne et al. (1999) defined rape myths as a set of cultural beliefs thought to support male sexual violence against women. The authors demonstrated that one common rape myth was *she asked for it*. This myth was spotted by endorsing statements such as "A woman who 'teases' men deserves anything that might happen," "When women are raped, it's often because the way they said 'no' was ambiguous," "A woman who dresses in skimpy clothes should not be surprised if a man tries to force her to have sex," and "A woman who goes to the home or apartment of a man on the first date is implying that she wants to have sex." Similarly, work on sexual harassment myths showed that one common myth was *women's responsibility* (Lonsway et al., 2008). This myth was spotted by agreement to statements such as "Women can usually stop unwanted sexual attention by simply telling the man that his behavior is not appreciated," "Women can usually stop unwanted sexual attention from a co-worker by telling their supervisor about it," and "Nearly all instances of sexual harassment would end if the woman simply told the man to stop."

Research on rape and sexual harassment myths have largely been conducted in Western cultures. However, it seems likely that the Turkish culture endorses even more traditional gender roles than Western cultures. The World Economic Forum 2015 The Global Gender Gap Index shows that Turkey has the 130th place out of 145 countries ranked (World Economic Forum, 2016), indicating a worse gender gap than the USA (28th place). Previous work also showed that endorsing sexual harassment myths correlates with traditional attitudes towards women (Lonsway et al., 2008). Furthermore, a link between honor cultures and victim blaming has been suggested by the media (McGowan, 2013). Therefore, we may observe *victim blaming* in the Turkish context, since victim blaming was observed even in the US context, which has less traditional gender roles and is not an honor culture.

Empathy

We may observe that women empathize with the victim of the event and victims of sexual assault, as rape victims' own experiences predict their reaction to other victims of rape. For example, individuals who were sexually victimized by an acquaintance empathized more with victims who experienced acquaintance rape (Osman, 2014). Osman (2014) suggests that commonalities with a victim may facilitate empathy with the victim. In the current study, since the hashtag #tellyourstory (#sendeanlat) was a call for women who experienced sexual assault to reveal their experiences, it is likely that the Twitter users involved in this hashtag will focus on the commonality they have with the victim. Therefore, we may see *empathy for the victim* as a theme.

On the other hand, previous work also shows that individuals empathize less with abuse victims compared with accident victims, as individuals tend to socially distance themselves from abuse victims (Heater et al., 2002). Therefore, based on previous literature, we may find a lack of empathy for the victim if Twitter users distance themselves from the victim. Finally, we may also observe empathy towards the perpetrator. Previous work shows that exposure to detailed information about a perpetrator's background fosters empathy with the perpetrator after a school shooting event (Peterson and Silver, 2017). Considering the amount of media attention Ozgecan Aslan's victimization and the background of the perpetrators received, it is also possible that Twitter users show empathy towards the perpetrator. Therefore, we may observe a theme regarding *empathy for the victim/perpetrator* in the current study.

The Role of Social Media in Social Movements

Theories on social movements suggest that both strong and weak relational ties cause individuals to engage in activism (Diani, 1995; Roger, 1993; Verba, Scholzman, and Brady, 1995). The nature of Twitter provides strong and weak ties to individuals. Therefore, we expect individuals to share information on the street protests after the Ozgecan Aslan incident as a way to recruit individuals in their social networks to the protests. Similarly, recent studies have emphasized the role of social media in political movements. For example, McGarty et al. (2014) stated that social media facilitates communication and thus social change. Similarly, Gleason (2013) showed that Twitter affected people during the Occupy Wall Street movement by creating multiple opportunities for users to partake in the movement, such as tagging other Twitter users when sharing related content. This, in turn, makes Twitter users more informed and engaged citizens. For example, 33 to 44% of all tweets related to the online presence of the Occupy Wall Street movement (hashtag #OWS) include hyperlinks. Hyperlinks typically involved rationale or critique of the movement, as well as general educational content.

Therefore, based on previous work, we may observe a theme on *information sharing* in the current study. For example, information about the attempted rape and killing of Ozgecan Aslan, as well as information about protests and rallies might be a theme we observe.

Study Goal

The Goal of the Current Study Is to Understand the Perception of Rape and Sexual Assault in an Honor Culture

Our goal in the current study is to shed light on this link between culture of honor and sexual assault/rape via focusing on how individuals in an honor culture react to rape and sexual assault. Investigating these reactions will further contribute to our understanding of assault traumatization and rape prevention in honor cultures; therefore, the findings of the current study can also be extended to other honor cultures, as well. Furthermore, to our knowledge, this is the first study that utilizes a naturally occurring big dataset to investigate the perception of rape and sexual assault. As such, this design will likely provide insights and themes that we could not observe using a survey paradigm.

Method

Extraction of Tweets

The social media platform Twitter provides a publicly available Application Programming Interface (API), which allows registered users to access raw data by using custom-made software. The Twitter API allows users to obtain data in a manner similar to the web interface, including searching for tweets by keyword(s) and collecting tweets from a user's public timeline. A custom script was written in the Python programming language that collected tweets from the public Twitter Search stream if they contained the hashtag "#sendeanlat." The Twitter API returned data to the script dating as far back as 7 days (the time at which the "#sendeanlat" hashtag began to proliferate), which was then logged as a standard CSV data table. Data collected via the API contained the full text of each tweet along with basic metadata about the tweet (user who made the tweet, tweet ID string, time of tweet creation, number of times retweeted at time of collection, number of times tweet was "favorited" at the time of collection, and whether the tweet was a reply to another tweet). At the time of the extraction, the Twitter Search API did not return a comprehensive listing of all tweets that meet a user's search criteria. Instead, a random subsample of tweets was provided via the API, estimated to be ~1% of all tweets that meet search criteria (API Reference Index, n.d.). Over a week, 636,862 tweets were

extracted, with 164,279 original tweets (i.e., excluding retweets).¹ The CSV data table was separated into individual text files to prepare the data for the Meaning Extraction Method (MEM) and the software used. Number of tweets per each day are reported in Fig. 1.

Extracting Themes Using the MEM

To extract the themes in these tweets, we used the Meaning Extraction Method (MEM, e.g., Chung and Pennebaker, 2008a, b; Ramírez-Esparza, Chung, Kacewicz, and Pennebaker, 2008). Performing the MEM can be assisted using automation software (the Meaning Extraction Helper, or “MEH”; Boyd, 2016) that uses automated text analytic tools to identify the most commonly used content words in written text, and then determines how these words co-occur in a given text.

Essentially, the MEM uses principal components analysis to observe how content words group together to extract the most salient themes used by people who wrote the tweets. Then the components are named using an inductive approach. Given the combination of statistical methods with qualitative interpretation of component structures, the MEM constitutes a mixed-method approach to studying natural language data. This new methodology has been used to successfully study a variety of psychological phenomenon ranging from personality descriptions (Chung and Pennebaker, 2008a, b; Ramírez-Esparza et al., 2008; Rodríguez-Arauz, Esparza, Boyd, and Pérez-Brena, 2017) to evaluative dimensions (Millar and Hunston, 2015), values (Wilson, Mihalcea, Boyd, and Pennebaker, 2016), and even discourse around food (e.g., Blackburn, Yilmaz, and Boyd, 2018).

This methodology is favorable when conducting research in languages other than English (Ramírez-Esparza et al., 2008). As Ramírez-Esparza et al. (2008) explains, the dimensions extracted via the MEM are purely inductive, and the method is language independent. Unlike coding by judges or using surveys where predefined domains are created by culturally biased investigators, natural connections among words are captured via the MEM. Furthermore, the method does not involve translation until after analyses have been conducted (Ramírez-Esparza et al., 2008; Ramírez-Esparza, Chung, Sierra-Otero, and Pennebaker, 2012; Rodríguez-Arauz et al., 2017). Therefore, in this investigation, we used the MEM to extract the themes in #tellyourstory (#sendeanlat) tweets.

¹ We observed that, although we excluded the retweets, there were some impactful tweets that individuals decided to partially copy. For example, a tweet could be copied with similar/exact wording yet different punctuation. Given the size of the current dataset, it is unlikely that such tweets will impact the results. Furthermore, it is to the users’ discretion to copy a tweet as their own without retweeting. It would also be not logistically feasible to separate such tweets given the amount of data we have. Furthermore, it would be an ambiguous methodological cutoff to exclude tweets that repeat the same words with slight changes, and perhaps counter-productive towards the purpose of studying broad social movements.

We used the Meaning Extraction Helper software to conduct the MEM (MEH, Boyd, 2016). The MEH is a free software designed to automate word-based text analysis procedures that are used for several language analysis tasks, including the MEM. The MEH software operates by converting natural language data into statistically actionable measures through a series of stages, starting with the conversion of unigrams (i.e., single words) into frequencies. In our dataset, we observed that some users tweeted one-word tweets only including the hashtag #tellyourstory (#sendeanlat). To exclude such tweets from the analysis, the minimum number of words required for a text to be included in the MEM was set as 2 (resulting tweet word count $M = 11.49$; $SD = 4.90$).

Another function of the MEH is that it allows the users to add extra conversions and stopwords (words that appear in text but carry little meaning or subject matter; El-Khair, 2006) that are not yet included in the program. Conversions refer to changing the words with the same roots into one word, changing common abbreviations into open forms, and correcting misspellings. For example, the word “bf” needs to be converted to “boyfriend” to include both words as one word in the analysis (Boyd, 2016). Since Turkish was added to the program in 2014, the conversions and stopwords are not yet exhaustive. Furthermore, Turkish is a language that uses suffixes after words, which leads to the need to specify such words into the original roots. For example, the word *ummak* means *to hope*, *umut* means *hope*, and *umuyorum* means *I hope*. By the inclusion of conversions and stopwords of commonly used words, we made sure that all 3 words were treated as the word *ummak* by the MEH.

Analyses

Extracting Themes

The minimum observed percentage was set to 0.3%, which means that words that were observed in at least 0.3% of the tweets were included in the subsequent analyses (Boyd, 2016; for further considerations of observation cutoffs and MEM procedures, see Boyd, 2017). As the next step to extract the themes in the tweets, a principal component analysis with varimax rotation was conducted using the binary (a.k.a., “one hot encoding”) data. Diagnostic tests indicated that our model was appropriate for the data ($KMO = .76$, Bartlett’s test of sphericity = 7,847,538.22, $p < .001$). Inspection of a scree plot confirmed 5 components at the elbow bend with Eigenvalues above 1 and that added a significant increase to the cumulative percent variance (Cattell, 1966). The five components cumulatively accounted for 8.79% of the total variance. As language data is typically far more sparse regarding word co-occurrences, and thus highly variable compared with scale or Likert-type data, lower explained variance and

loadings are expected (e.g., Chung and Pennebaker, 2008a; b; Kilimnik, Boyd, Stanton, and Meston, 2018). The most frequent words can be found in the Appendix.

Results

The goal of the current study was to investigate the perception of rape and sexual assault in an honor culture via focusing on the themes individuals talk about in a social media movement. We analyzed the tweets under the hashtag #tellyourstory (#sendeanlat) using the MEM (Chung and Pennebaker, 2008a; b; Ramírez-Esparza et al., 2008). Results of the MEM analysis can be found in Table 1. Words that loaded higher than 0.10 were included in Table 1. These words provide a general sense of what the tweets were about. For example, words such as *bus*, *rape*, or *assault* were among this list, along with the victim's name, showing that the tweets are clearly focused on this event.

When labeling our themes, we used a qualitative bottom-up approach. To get a sense of how the words that clustered reflected latent themes, we manually reviewed several original tweets, primarily focusing on tweets with high and low loadings onto each component to aid in naming each component. Sample tweets can be found in Table 2.

Theme 1: Reactions to Victim Blaming

Results demonstrated that the first component included words such as *mystery*, *defense*, *headscarf*, *mini*, and *skirt*. Sample tweets that load high on this component show that these are characteristics of a victim (see Table 2). For example, tweets explain that a woman with a headscarf can be found mysterious by potential perpetrators. Similarly, tweets explain that a woman wearing a mini skirt may be perceived as promiscuous by potential perpetrators. The word “defense” is also in this theme, as victims are advised to defend themselves in cases of assault. Furthermore, when we investigated the highly loading tweets, we observed that the tweets were Twitter users' reactions against the victim blaming in assault cases.

Theme 2: Honor Culture/*Namus*

The second component included words such as *marrying*, *touching*, *past*, *future*, and *girl*. These words refer to *honor culture/namus*. Sample tweets situate rape as a devastating experience for the family. Unlike the other components, the highly loading themes in these tweets refer to the victims as future wives, sisters, or daughters. The words we found in this theme included *marrying*, *touching*, and *background*, which suggest how the experience of rape alters a woman's perceived qualities in terms of sexuality before marriage.

Theme 3: Assault Experiences

The third component included words such as *follower*, *Website*, *daily*, and *ozgecanaslan* (the name of the victim). Words such as *follower*, *Website*, and *daily* could be ways to attract attention to the movement. These could also be individuals capitalizing on this big movement via placing their websites strategically within tweets about this movement. This theme also included words related to the details of the event such as *small bus*, *walking*, and *house* (see Table 1). These words were used not only to describe the specific events Ozgecan Aslan had to experience but also to describe similar (yet more minor) experiences twitter users had themselves. For example, many twitter users described instances where they were afraid of assault when they were alone on a bus. Therefore, this component can be interpreted as giving information on *assault experiences*.

This theme shows the recitation of first hand or vicarious experiences of sexual assault. Furthermore, women's strategies in avoiding sexual assault or rape were also observed in this theme, with tweets such as “Girls who pull their backpack all the way down so that others can't look at their behind, you tell your stories too.” and “I now understand why my mom says ‘don't take an empty bus late at night’ and ‘choose crowded streets.’ really well.” These context-specific strategies were also communicated in this theme.

Theme 4: Social Media

The fourth component included words such as *entering*, *account*, *twitter*, and *the hashtags* “capital punishment is a right” and “my proposed solution.” This component can be interpreted as *social media*, which seems related to the third theme. This theme; however, was specific to the use of Twitter and included words such as “hashtag.” Furthermore, the social media theme had hashtags where people voiced their ideas for change, such as the hashtag “capital punishment is a right” or “my proposed solution.” Similar to the third component, sample tweets included social media-oriented tweets such as “our Website is newly founded. You can join know and earn 500 followers for a week.” which could potentially attract Twitter users and increase the exposure to this movement. Alternatively, individuals could use this popular hashtag to disseminate their own Websites.

Theme 5: Woman's Responsibility

The fifth component included words such as *excuse*, *taking*, *hoping*, *breathing*, and *provocation*. This component can be interpreted as *woman's responsibility* as it pertains to the allegations of women provoking men in cases of rape. This theme is along the same lines of the theme of victim blaming. The difference is that this theme shows specific reactions against the allegations from the perpetrators regarding how they were

Table 1 Themes extracted from #lellyourstory (#sendeantlat) tweets

Themes	Component 1: reactions to victim blaming	Component 2: honor culture/ <i>namus</i>	Component 3: assault experiences	Component 4: social media	Component 5: woman's responsibility				
GİZEM/mystery	.89	EVLENMEK/marrying	.91	TAKİPÇİ/follower	.71	GİRİŞ/entry	-.63	PARDON/pardon me	-.76
BULMAK/finding	.87	DOKUNMAK/touching	.89	KAZANMAK/winning	.59	Twitter	-.60	ALMAK/taking	-.74
SAVUNMA/defense	.84	GEÇMİŞ/past/background	.88	SİTE/website	.56	HESAP/account	-.60	UMMAK/hoping	-.74
TESETTÜR/headscarf	.84	GELECEK/future	.82	KURULMAK/founding	.44	YAP/make	-.57	NEFES/breath	-.73
SEBEP/reason	.82	ÖNEMLİ/important	.81	HAFTA/week	.41	İDAM CEZASI HAKTIR/capital punishment is a right	-.39	TAHRİK/provocation	-.66
YOLLU/promiscuous	.81	KIZ/girl	.32	ÖZGEÇAN ASLAN/Ozgecan Aslan (the victim's name)	.34	Trending	-.35		
GÖRMEK/seeing	.65			GÜNLÜK/daily/dairy	.29	Hashtags	-.33		
ŞERİFSİZ/dishonored/scumbag	.63			KULLANMAK/using	.25	Results	-.30		
ÇOCUK/child	.58			HER GÜN/every day	.24	ÇÖZÜM ÖNERİM/my proposed solution	-.22		
MİNİ/Mini	.57			BEDAVA/free of charge	.12	Now	-.21		
ETEK/skirt	.55			KADIN/woman	-.14	Unfollow	-.10		
				OTOBÜS/bus	-.14	NIHAT VARSA SURVIVOR	-.10		
				İNMEK/getting off (a bus)	-.13	BOYKOT/boycott survivor (the show) if Nihat is in the cast	.38		
				KALMAK/staying	-.13	YENİ/New			
				İSİM/name	-.13				
				DOLMUŞ/small bus	-.12				
				ERKEKLİK/manhood	-.12				
				ERKEK/man	-.11				
				YÜRÜMEK/walking	-.11				
				EV/house	-.10				

Note 1. Extraction method: principal component analysis. Rotation method: Varimax with Kaiser normalization. Rotation converged in 7 iterations

Table 2 Sample tweets for each theme

Themes	Sample tweets with high loading	Sample tweets with low loading
Component 1: reactions to victim blaming	<p>“If you are raped, you are promiscuous, but if you die, you are a hero in this country. Both should end.”</p> <p>“If he sees a woman with a headscarf, he finds her mysterious; if he sees a woman with a mini skirt, he finds her promiscuous; if he sees a child, he finds her vulnerable. These scumbags always find a reason.”</p> <p>“When I was coming home from prep school I was assaulted. The reason was that I was wearing a skirt. The reactions I received from others were like ‘you should not have worn that.’ I could not say (anything).”</p>	<p>“Our Website is newly founded. Join now and earn 500 followers.”</p> <p>“You have no idea what it is like to be assaulted as a woman with others’ words or gazes.”</p>
Component 2: honor culture/ <i>namus</i>	<p>“If the past/history of the girl you are going to marry is important for you, you shall not touch the future of other girls.”</p> <p>“#tellyourstory Do not do things to others’ sisters that you do not want others to do to your sister. We grew up like that.”</p> <p>“Think of all the families whose daughters are studying in other cities.”</p>	<p>“People became so psychotic that they are talking about capital punishment.”</p> <p>“The hardship of living with these perverted minds that find excuses for rape.”</p> <p>“We place male shoes in front of our house door (to indicate there is a man at home) when the father of the house is not home. This sums it up.”</p> <p>“If there is only one woman on a bus, staying on the bus until that woman gets off the bus will be the best thing we can do in the name of masculinity.”</p>
Component 3: assault experiences	<p>“I saw creatures who were turned on by a girl’s headscarf waving in the wind. You think of the rest.”</p> <p>“I got so sick of getting messages with (inappropriate) photos (!) in my old Facebook account, so I had to open a new account with a foreign name and no photos of myself and just added my girlfriends.”</p> <p>“Girls who pull their backpack all the way down so that others cannot look at their behind, you tell your stories too.”</p> <p>“I now understand why my mom says ‘do not take an empty bus late at night’ and ‘choose crowded streets.’ really well.”</p>	
Component 4: social media	<p>“Our website is newly founded. You can join know and earn 500 followers for a week.”</p>	<p>“If you are a woman, there are lies, pain, fear, and anxiety for you in this life. Do you have a world that you can take a step out to with no fear?”</p> <p>“You tell it too so that maybe things will get better. A little hope.”</p> <p>“Look for a woman who has not been assaulted. You cannot. All women are assaulted either by words or gazes.”</p> <p>“When you are crossing the street, the male driver accelerates his car while driving towards you with the intent to scare you.”</p>
Component 5: women’s responsibility	<p>“Excuse us for breathing, hope you are not provoked.”</p> <p>“I got beaten up by a random man in the middle of a street because I was wearing leggings. Excuse me, the word ‘man’ was a misuse.”</p> <p>“If she eats ice cream or wears something short, she’d be provoking. When her hair gets long, she’d be forced to marry to someone. Being a woman in Turkey.”</p>	

provoked by the woman. Furthermore, in this theme, but not in the victim blaming theme, we observed sarcastic tweets (e.g., “Excuse us for breathing, hope you’re not provoked.”) that loaded high.

Discussion

The current study aimed to understand the perception of rape and sexual assault in an honor culture. We analyzed tweets with the hashtag #tellyourstory (#sendeanlat) to achieve this goal. We observed the following themes: reactions to victim blaming, honor culture/namus, assault experiences, social media, and reactions to woman’s responsibility. Furthermore, it is important to note that the words that appear in the themes are not always the most occurring words. The first theme we observed was *reaction to victim blaming*. The second theme we observed was *honor culture*. The third theme we observed was *assault experiences* where users shared their assault experiences and strategies they use to protect from assault. The fourth theme we observed was *social media*. The fifth and final theme we observed was *reactions against women’s responsibility* where tweets reacted against the idea that women are responsible for cases of rape.

Theme 1: Reactions to Victim Blaming

The first theme we found was *reactions to victim blaming*. Since tweets in this theme refer to the victim’s characteristics, this theme fits with the previous work on rape and sexual harassment myths demonstrating that common myths such as “she asked for it” and “woman’s responsibility” (Payne et al., 1999; Lonsway et al., 2008). Previous literature showed rape and sexual harassment myths in Western cultures. This theme shows that these myths also exist in an interdependent culture with an even greater gender gap. The fact that the myths were also found in a very different culture suggests the possibility of universality in victim blaming following sexual assault.

Our unique finding is that when we look at the highly loading tweets, we see that Twitter users reacted against this victim blaming in the society. Based on the content and context of tweets that scored highly on this component, we can assume that the tweets in this theme are written by women who experienced sexual assault and rape. We can therefore propose that although victim blaming after cases of rape or assault are prevalent in the society, women are strongly reacting against this phenomenon. An explanation of this could be that this reaction is prevalent in honor cultures. Since sexual assault is experienced as a taint to the family’s honor, such a crime affects not only the victim but their whole family directly, hence creating this reaction. An

alternative explanation is that women who are feeling angry at victim blaming after assault chose to express themselves via participating in this social media movement.

Theme 2: Honor Culture/Namus

The second theme we found was honor culture/namus. Tweets in this theme refer to women in various roles in the society, such as wife, sister, or daughter. In other words, this theme fits with the characteristics of the Turkish culture that places honor on a woman’s physical and moral qualities, especially those linked to sexual activity (Sev’er & Yurdakul, 2001). The words we found in this theme included *marrying*, *touching*, and *background*, which suggest the relationship of rape with a woman’s qualities in terms of the marriage realm. In an honor culture, premarital sexual experience may decrease a woman’s chances of finding a partner for marriage, regardless of whether the experience was consensual. This, in turn, could “taint” the whole family’s honor. Therefore, considering this context, this theme appears to capture the experience of rape or sexual assault in an honor culture where honor is a shared resource. In an honor culture, experiences of rape or sexual assault harms this resource for the victim and the victim’s family members who share this resource with the victim. Men are considered to be particularly responsible for the honor of those who are linked to them in an honor culture; therefore, it is possible that the tweets in this theme reference male reactions.

Theme 3: Assault Experiences

The third theme we found was *assault experiences*. This theme included information about assault experiences, as well as context-specific strategies that can be utilized in different cases of assault. This finding fits with the previous literature that shows that social media has been used for sharing information during other movements such as the Occupy Wall Street (Gleason, 2013). Via communicating details of Ozgecan Aslan’s experience or twitter users’ firsthand experiences of assault, users could give others the chance to learn about the details of the crime through social media.

Theme 4: Social Media

The fourth theme that we found was social media. This theme included multiple hashtags such as *capital punishment is a right* that were specific to utilizing Twitter to spread a message. This theme also included words related to the use of social media, but not necessarily to the #tellyourstory (#sendeanlat) movement. This finding is in line with previous work that suggests that social media has been critical in

protests. However, in this study, it is important to consider that social media use may not guarantee activism in other domains, such as joining a protest. Davidson (2015) reported that there were mass protests across Turkey during this time. With our findings, we can predict that social media might have played a role in the organization of these protests. However, the extent of social media's effectiveness in organizing these protests are not known. There is a scarcity of work on this issue in the literature. However, there are other examples of this assumption in the society. For example, researchers working on bias and stereotyping have been communicating their results to the public under the assumption that this communication will lead to social change (Blanton & Iker, 2017). Therefore, although we do not have information on whether awareness lead to participation in other forms, it is not surprising to find such a theme.

Theme 5: Reactions to Woman's Responsibility

The fifth and final component was *reactions to woman's responsibility* as it pertains to the allegations of women provoking men in cases of rape. Similar to the first theme (reactions to victim blaming), this theme is in line with the previous work on rape and sexual harassment myths that showed common myths such as *she asked for it* and *woman's responsibility* (Payne et al., 1999; Lonsway et al., 2008). However, this theme is more specific. It focuses on one specific aspect of victim blaming, which is that the woman is perceived as responsible for the assault. There can be different reasons as to why this theme was separate than the first theme. For example, although an individual does not have a strong reaction against blaming victims of assault, they might have a strong reaction specifically when the assault is framed as the woman's responsibility. In the mainstream media, it is common to see statements such that a man was provoked by a woman, which caused assault or rape. Individuals who are not sensitive to victim blaming in general could have been exposed to such news and react specifically to this ideology.

A unique characteristic of this theme was that it included sarcastic tweets. For example, "Excuse us for breathing, hope you're not provoked." was a highly loading tweet. This use of sarcasm is a unique finding. Previous literature conceptualizes sarcasm as a covert way to show aggression (Calabrese, 2000). In a collectivist culture, it could be the case that covertly angry comments are more accepted than overtly angry ones. Therefore, women may have expressed their anger via these sarcastic tweets.

Limitations

Social media and new methods for analyzing language allowed us to investigate data from a wide sample to

understand this social movement. It is important, however, to note that in naming these themes, our own biases might have been influencing the names chosen for the themes. We are, therefore, providing the reader with the words that each theme includes (see Table 1).

There are limitations to our study that stem from the nature of our dataset. First, the 140-character limit could create a bias in our data. For example, it is possible that Twitter users refrained from talking about more traumatic assault/rape experiences since that could take up too much space. Second, we could not compare the themes based on the Twitter users' gender. Previous work showed men and women react differently to female victims of sexual assault (Drout and Gaertner, 1994). However, to our knowledge, there is currently no way of gauging a Twitter user's gender accurately. Third, the MEM does not allow us to take into account the valence of the tweets. For example, when an individual is tweeting about the characteristics of a victim, within this method, we cannot know whether the tweet is a reaction against blaming the victim or in fact involves blaming of the victim. We believe, however, going back to the original dataset and manually reviewing tweets that score high on a given component gave us insight about the valence of the themes in general, minimizing this limitation.

Future Work

Our study leaves us with important research questions that should be examined in future research that combines exploratory methods with more controlled study designs. For example, are specific kinds of tweets more likely to lead to collective action or behavior change? Similarly, are specific kinds of tweets more likely to lead to other tweets of similar nature? Are some themes more likely to be tweeted by Twitter users with certain characteristics? For example, do men tweet more about honor culture while women talk more about their experiences of assault? Furthermore, do these patterns change across cultures? Another important question future work needs to investigate is what cultural factors are crucial in determining the themes that occur across multiple cultures? Finally, it is important to empirically test potential campaigns to observe what types of campaigns work the best in an honor culture. For example, is it beneficial to include the family's vicarious trauma in public awareness campaigns in honor cultures or would it backfire? Such questions need to be empirically tested in future work.

Conclusion and Implications

In the current study, five themes emerged in an honor culture in reaction to a highly publicized rape case;

reactions to victim blaming, honor culture/namus, assault experiences, social media, and reactions against women's responsibility. Based on previous work, we expected to see themes related to honor culture, victim blaming, empathy for the victim/perpetrator, and information sharing. The themes that emerged partially overlapped with these expectations. First, as expected, we observed a theme on victim blaming. However, contrary to what the previous work suggested, the theme was a reaction to victim blaming. Furthermore, we observed a specific theme that was a reaction to women's responsibility. In this theme, tweets reacted against the idea that women are responsible for cases of rape. Second, as expected, we observed a theme on honor culture. Third, instead of information sharing, we had the themes of assault experiences and social media. In the assault experience theme, users shared their past experiences and strategies they use to protect themselves from assault. This is different from what has been found in previous work. Individuals did not only share information about the protests or the specific case, but also shared their own experiences. In the social media theme, more than information sharing, individuals used the hashtag to spread their own websites. They also created new hashtags such as *my solution proposal* in this theme.

Based on these overlaps and differences between the expected themes and the themes we observed, the most important theoretical implication is that when naturally occurring language is investigated, novel information can be extracted. For example, although previous work did suggest that victims are blamed after cases of assault, it would not be feasible to find reactions against victim blaming. Similarly, themes such as honor culture could be observed since this inductive methodology is used.

The current work also has applied implications for policymakers and the media. The current work suggests that the discourse when covering rape or sexual assault cases may cause a strong reaction among women who have experienced rape or sexual assault. Especially in societies where the tendency to blame or focus on the victim might be prevalent, it is important for policymakers and the media to consider this finding when covering similar incidents. Public awareness campaigns need to highlight that regardless of the characteristics of the victim, the perpetrator is to blame for cases of assault.

Another implication of the current study is for the lawmakers. Within the social media theme, individuals expressed their own solutions to the problem as well as stating that capital punishment should be a right. We also know that Ozgecan Aslan's perpetrators were

anonymously murdered in the prison by other prisoners (Deutsche Welle, 2018). This is a practice that has been observed as a reaction to prisoners guilty with rape or incest. It might be the case that the public perceives the legal punishments for such perpetrators as not sufficient. It is important to start a discussion in terms of legal punishment to such crimes so that a sense of fairness is restored in the society.

There are also mental health implications of the current study. Previous work showed that during a post-rape period, social reactions from friends and family play a crucial role in healing. Victims whose accounts of what happened was believed demonstrated improved healing (Campbell, Ahrens, Sefl, Wasco, and Barnes, 2001). In the Turkish culture, it might be especially important to focus on this point by mental health practitioners. Furthermore, based on the previous literature and the honor culture theme in the current study, sexual assault may be a traumatic experience for those who are closely related to the victim in honor cultures. Vicarious experiences of trauma can also be focused on by mental health practitioners in honor cultures.

The current work further highlights that sexual assault is perceived as a taint to the victim's honor as well as those around the victim. Previous work shows that when a woman is perceived as "dishonorable," she may be punished by male members of her family (Ugurlu and Aktas, 2013). Sexual assault survivors might conceal their experiences in honor cultures both because of anticipating punishment and because of the possibility that family members would feel vicarious trauma if they were to know about the experience. Therefore, in honor cultures, it is crucial to implement anonymous hotlines for victims to express their experiences and seek legal help without disclosing their identity. Services similar to The Rape, Abuse and Incest National Network's (RAINN) anonymous national hotline in the USA need to be implemented in honor cultures.

Characteristics and language use from different types of cultures are important to investigate for tailoring future intervention efforts against rape and sexual assault. Otherwise, interventions that assume that every culture can benefit from a similar intervention would be, as Kagitcibasi (2007) posited, "shooting in the dark."

Compliance with Ethical Standards

Ethical Approval All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards. The data we extracted from Twitter is public. Therefore, as advised by the University of Connecticut Ethics Board, we did not obtain an IRB approval for this study. There was no informed consent as we used the data that is already publicly available.

Conflict of Interest The authors declare that they have no conflict of interest.

Appendix

Appendix Most frequently used words

Words	Percentage in texts
1. SENDEANLAT/tell your story	99.93
2. ÖZGECAN ASLAN/name of the victim	23.94
3. KADIN/woman	12.51
4. ERKEK/man	7.74
5. TACİZ/assault	5.25
6. KIZ/girl	4.35
7. ÜLKE/country	3.93
8. ADAM/dude	3.85
9. TAKİPÇİ/follower	3.23
10. İNSAN/human	3.29
11. EV/home	3.17
12. OTOBÜS/bus	2.93
13. TECAVÜZ/rape	2.80
14. YOL/road	2.68
15. GELMEK/coming	2.46
16. SONRA/afterwards	2.44
17. YÜRÜMEK/walking	2.44
18. SİTE/Website	2.33
19. YER/place	2.28
20. SOKAK/street	2.17
21. ARTIK/from now on	2.11
22. KAZANMAK/winning	2.08
23. TÜRKİYE/Turkey	1.95
24. ANLATMAK/telling	1.92
25. LAF/catcalling	1.87
26. KORKU/fear	1.87
27. NASIL/how	1.85
28. ETEK/skirt	1.75
29. YAŞ/age	1.74
30. KISIM/part	1.68
31. MİNİ/mini (skirt)	1.55
32. ÇÖZÜMÖNERİM/my proposed solution	1.43
33. BAŞ/head	1.38
34. TAKİP/follow	1.38
35. ZAMAN/time	1.32
36. OKUL/school	1.28
37. GİTMEK/going	1.27
38. OKUMAK/reading, studying	1.21
39. ÇOCUK/child	1.21
40. GÜN/day	1.16

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